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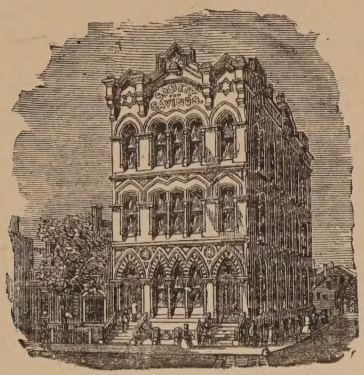

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Of the tracts which follow the committee will say, as is usually stated, that the authors of the various papers are responsible for their accuracy.

Number 75, "The History of the Society," was ordered printed by a vote of the members at the annual meeting.

We regret to have to call attention to a mistake in the printer's office which has duplicated in number pages 264-282. In the index the duplicate numbers are designated as 264 D, etc.

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ARCHÆOLOGY

OF OHIO.

By M. C. READ,

LATE OF THE GEOLOGICAL SURVEY OF OHIO; TRUSTEE OF OHIO ARCHÆOLOGICAL SOCIETY IN CHARGE AT PHILADELPHIA, 1876; AND ASSISTANT COMMISSIONER AT THE EXPOSITION AT NEW ORLEANS IN 1884-5.

TRACT 73.

Approved for publication:

LEE MCBRIDE,
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SAM BRIGGS,
Committee on Printing.

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INTRODUCTION.

During this centennial year of Ohio, the attention of its citizens will be generally directed to its past.

The State is remarkable for the number and extent of its earthworks, no spot of equal size on the globe having so many and so extensive monuments of earth.

Whether one stands on the grounds of the Agricultural Society, in Licking County, inside the thirty-acre circle, with its high walls shutting out all view of modern civilization, and remembers that this was only one of many works extending for miles in more than one direction; whether, as happened to me last summer, he spends three and a half hours clambering along the steep embankments of Fort Ancient, or whether he reads in books alone of these and various wonderful works, remembering again that there are over ten thousand mounds in the State, he will be alike amazed at such and so many remains left by a race so far unknown that it can as yet simply be styled "The Mound Builders."

The interest has been romantic, and the temptation, in absence of evidence, to exercise the imagination, has been quite irresistible. As years have flown and knowledge from many investigators has been added up, it is time that archaeology shall begin to be certain and a science. The next step requires a competent experience and a sound judgement to decide both what is and what is not proven. For to be right it is quite important to know the limits and certainties of knowledge.

This Society presents to its members with pleasure this little book, by Professor M. C. Read, of Hudson, Ohio, late a prominent member of the Geological Survey, of the State. He was also, in 1876, the most active Trustee of the State Archaeological Society of Ohio, in charge, with the late

President of our Society, Colonel Charles Whittlesey, of the Archaeological Exhibit of the State at the Philadelphia Exhibit. Later he was in 1884–5 Assistant Commissioner at the Exposition at New Orleans, having in charge the archaeological exhibit there.

His tastes, experiences, and mental habits, have been such that we think ourselves fortunate in making this, in this centennial year, the first of our new series of publications.

It has been desired that at this time this publication should be made, and hoped that it will be of value in assisting knowledge and directing attention to this subject which it is to be hoped is this year to have the advantage of the largest exhibitions within the State itself.

This book was mainly prepared for a report upon this subject and most of the illustrations were prepared for it as such and in outline as the amount to be devoted to engraving was small. The author acknowledges his indebtedness to this Society, to the Smithsonian Institution, to Mr. Robert Clarke, of Cincinnati, and Mr. Peter Neff, of Gambier, for the use of engravings and for copies of others. Some of them have appeared in former tracts of the Society, but it has been thought best that Professor Read should be able to present, though not a complete, a typical treatise upon his subject.

C. C. BALDWIN,

President of the Western Reserve Historical Society, of Cleveland, Ohio.

The Archæological Exhibit.

By M. C. READ, Assistant Commissioner,
Hudson, Ohio.

The general attention now given to archaeological studies makes all good exhibits of local archaeology important features in general exhibitions. This was made apparent at the Centennial Exhibition in Philadelphia. No part of that great exhibit of the industries and arts of the world attracted greater attention of all classes, than the pre-historic relics of the nations represented. The beginnings of civilization, the rude attempts of primitive man everywhere, to conquer the forces of nature, and provide for his ever-increasing wants, are now more carefully studied than ever before. And as there is no State in the Union richer in archaeological remains than Ohio, it was eminently fitting that the exhibit made at New Orleans, intended to illustrate the arts, industries, resources and civilization of this State, should be accompanied by a like exhibit of its pre-Columbian inhabitants.

The brief time which could be given to making the collections for this exhibit, rendered the making of such a collection as was desirable, wholly impossible. If all of the collections great and small in the State could be examined, and permission obtained to use selected specimens, which were well authenticated, accompanied with descriptions showing when, where and under what conditions they were found, an exhibit could be made which would enable us to commence an accurate classification of these remains, and to

understand at least approximately their significance. Before these typical and valuable specimens are lost or carried out of the State, such a collection ought to be made, either by the State, or by some society, so organized, as to insure the preservation of the collection, in some central locality, where it would be accessible to all students of archaeology. Every year's delay renders the making of such a collection more difficult, and would make the collection of less value when made. Its preservation could be fully insured by making it the property of the State, to be treated as a part of the library of the history of the State.

In making the selections for the New Orleans Exhibition, many collections could not be visited. Many owners were unwilling, for any monied guarantee, to risk the loss of specimens, and reliance had to be made upon the generosity and public spirit of those who were willing to entrust their whole collections to the care of the Commission. Messrs. Baldwin and Bauder, of the Northern Ohio and Western Reserve Historical Society, of Cleveland; The Ohio State University, of Columbus; Thomas W. Kinney, of Portsmouth; R. W. Mercer and S. C. Heighway, of Cincinnati, are entitled to the special thanks of the Committee for their generosity in this particular.

FLINT OR CHERT IMPLEMENTS.

Of the many thousand articles exhibited, the so-called "flint" implements were the most numerous, and these, from the great variety of forms, and often from their delicacy and perfect workmanship, attract the most attention. They are not made of a true flint, but of a flint-like chert, found in place on the horizons of the carboniferous limestones of the State. Many ancient quarries have been noticed from which this material was mined, the most extensive one being on Flint Ridge, southeast of Newark, in Licking county. Here many acres are covered, to a depth of several feet, with the broken fragments of chert, taken from the quarries.

The miners had learned that the chert exposed to atmospheric agencies did not chip readily, and was poorly adapted to their work. Accordingly they rarely attacked the stratum at its outcrop, but sunk pits to it, where it was covered with several feet of earth. These they carried through the chert, undermined it, and could thus easily work out the blocks into which it was naturally divided. The value they attached to this material is indicated by the vast amount of waste now remaing upon the surface. Not more than one or two per cent., of the material quarried, would be available for the production of the bettter class of flint implements. The selected material was apparently largely carried to other places to be manufactured, and was probably an article of barter between separated communities. Many places have been noted, remote from these ancient quarries, where the surface soil is filled with chips and flakes, and where broken arrows, knives and spears are conspicuously abundant.

The typical fossils of the limestones are sparingly found in the chert, and are occasionally seen in the finished implements — reliable witnesses of the material. Two such specimens from my small collection were on exhibition.

In Mr. Kinney's collection was a large number of beautiful specimens, called by the Archaeologists of the Smithsonian Institute, "leaf-shaped implements." These were a part of a single find of nearly four hundred specimens, and a large number of such finds have been made in the State. Rarely seen scattered upon the surface, they are found deposited by hundreds beneath the surface, and, in every case, where definite information can be obtained, on the margin of a stream or lake where they would be kept constantly moist. None of them are notched or fitted to be attached to handles. They appear to be unfinished implements, chipped into form and burried where the flaking character of the material would not be impaired, and to be afterward fitted for their special uses.

It is related that when the Angel met Moses at the Inn and sought to kill him, his wife, Zippora, evidently supposing that his danger arose from the fact that he had neglected to subject their son to the Abrahamic rite, seized a "sharp stone," and with it circumcised their child, when the Angel departed. The word rendered "sharp stone" in the Septuagint version means a pebble from the brook, indicating that the author of the narrative understood that a stone, from which a knife could be extemporized, must be taken from the water. It is also related that the California Indians, in want of a knife, will search in the nearest stream for a stone, chip it to an edge, and with it skin a deer almost as quickly as he could with a modern steel knife. The primitive inhabitants of Ohio were doubtless equally well informed, and would preserve their unfinished implements where their flaking qualities would not be impaired. One of these deposits, in Summit County, contained also a number of pieces of matamorphic slate, chipped into the form of the polished stone ornaments, common in the State, but neither perforated or polished.

ARROW POINTS.

What are "arrow points?" is a question which would be differently answered by different collectors. A correct answer to this question, and many others which will arise in an attempted classification, can perhaps be reached by learning—

First. How tribes, still making flint implements, use them.

Second. What is the form of the first substitutes for them made of metal?

Third. What light does any well-authenticated picture writing shed upon the question?

Now all the flint arrow tips, anywhere obtained, attached to shafts, are very small in comparison with many so-called arrows in most collections, and the modern Indian, who still

uses the bow, and has adopted iron or steel for his arrow tips, makes them all small. It is obvious also that the large pieces could be used for arrow points only at short range, and with very strong bows.

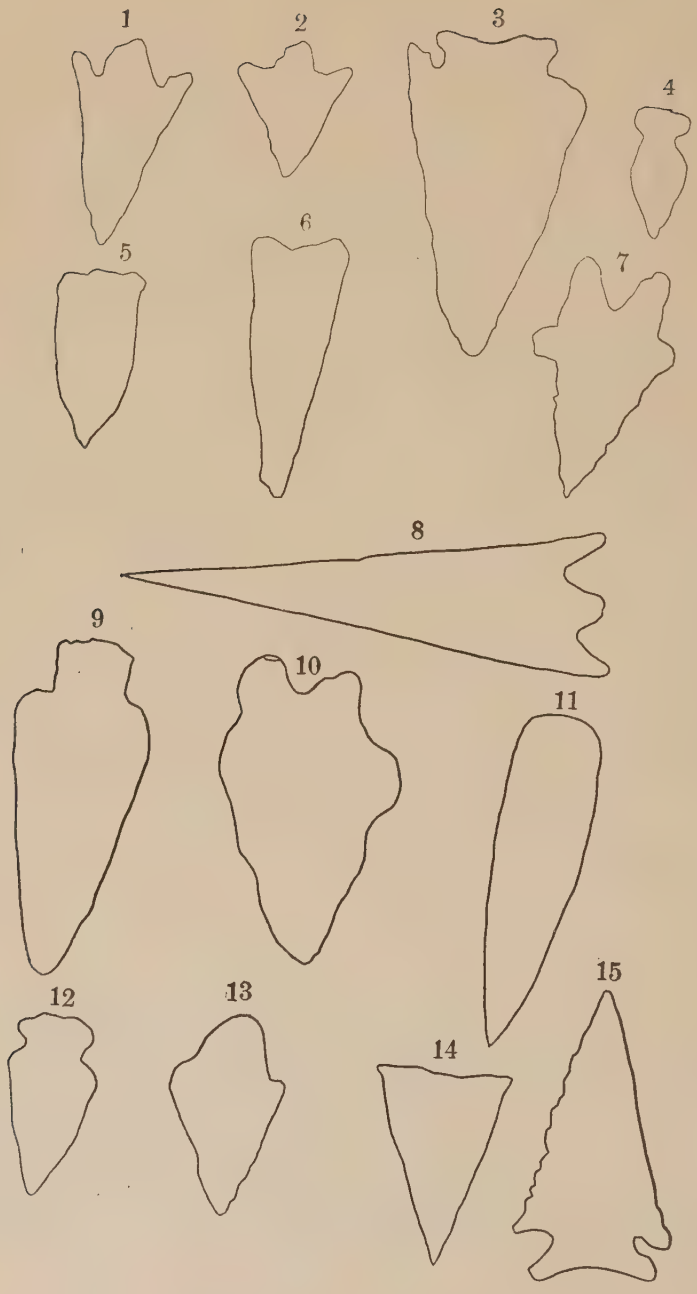
In the illustrations, figure No. 8 represents a very delicate glass arrow point made by a Tin Tin California Indian; Nos. 19 and 20, chert points, attached to shafts in the Smithsonian collection, made by McCloud River Indians; Nos. 21 and 22, similar points in the same collection, made by Hoopah Indians, and Nos. 24, 25 and 26, iron points, attached to shafts in the Montana exhibit.

With these may be compared Nos. 1 to 18, inclusive, representing the different forms and sizes of what may properly be called Ohio arrow points. But there is a gradual increase in size, and no definite line can be drawn between the arrow points and the larger forms.

KNIVES.

Chert and rock fragments, which could be chipped to a sharp edge, constituted the only material largely available for the manufacture of cutting implements for primitive men, and natural wants would prompt to the extensive use of this material for such purposes. The forms of the implements, the specimens still found in use attached to their short handles, and the few specimens found, in which the handle is wrought out of the same material as the knife, and constituting a part of it, clearly indicate the character of these implements.

The rudest form is made without any attempt at symmetry, without any provision for the attachment of a handle, and is simply a rock fragment chipped to a single cutting edge. A collection of such knives, taken from a rock shelter in Boston, Summit County, was among the exhibits. Nearly all found at that place were of this character—fragments of shale, quartz, boulders, and other rock, so broken as to give a single cutting edge, of such forms as Nos. 27 and 28 in the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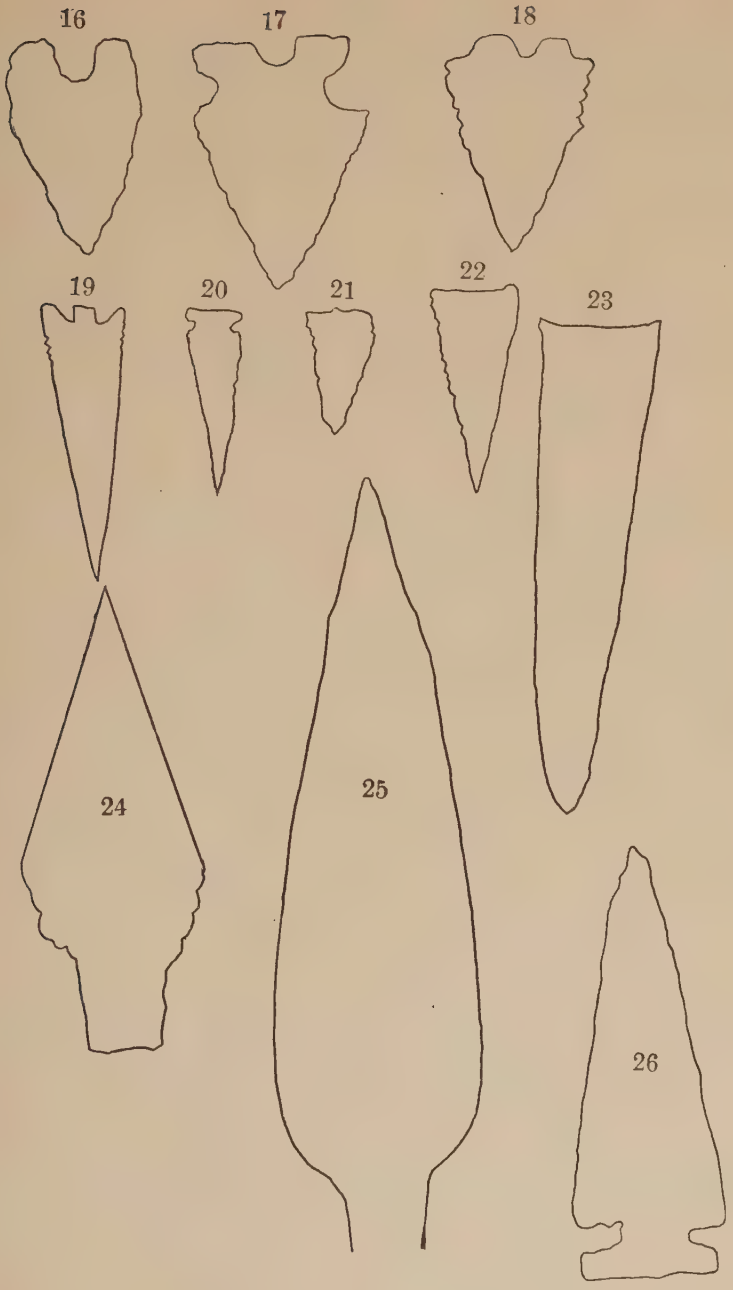
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illustrations. From the ash-bed of this shelter seventy-five such knives were gathered, made from all the material available for such uses, to be found in the neighborhood, and the uses for which they were intended could not be mistaken.

Figure 29 represents one of several specimens of handled flint knives in the Smithsonian collection, reduced one-half diameter.

No. 3930, of the Smithsonian collection, is a knife of red jaspery chert, obtained from a mound on Warrior River, Alabama, of which the handle is of the same material as the knife, the whole being of one piece. This is also in figure No. 30, reduced one-half.

Figure No. 31 represents a similar knife from the same collection, and No. 32, still a different form, made of white chert, in the Missouri collection, both reduced one-half.

These illustrations sufficiently show the manner of attaching handles to these implements, which were doubtless used, so far as their wants required, for all the purposes for which modern cutting implements are used. When all the collections in the State are collated and compared, it is probable that specimens from the mounds may be distinguished from later forms, and that a discrimination can be made between local tribal forms. Marked distinctions can now be seen between collections made in different places, in part due to the differences in the character of the material used, and doubtless in part due to the skill and taste of the manufacturers.

The forms are almost endless, and pass by incessable gradations into the forms which in collections are classified as daggers and spears. Illustrations of a few of the most typical forms will be given.

Figure 33 represents a very beautiful specimen, found deeply buried in the glacial drift in Twinsburgh, Summit County.

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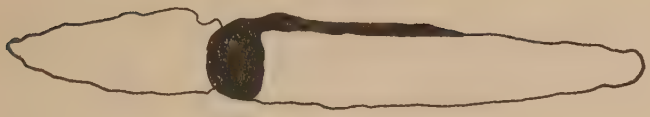

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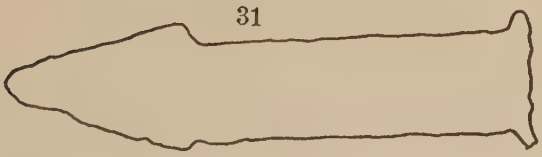

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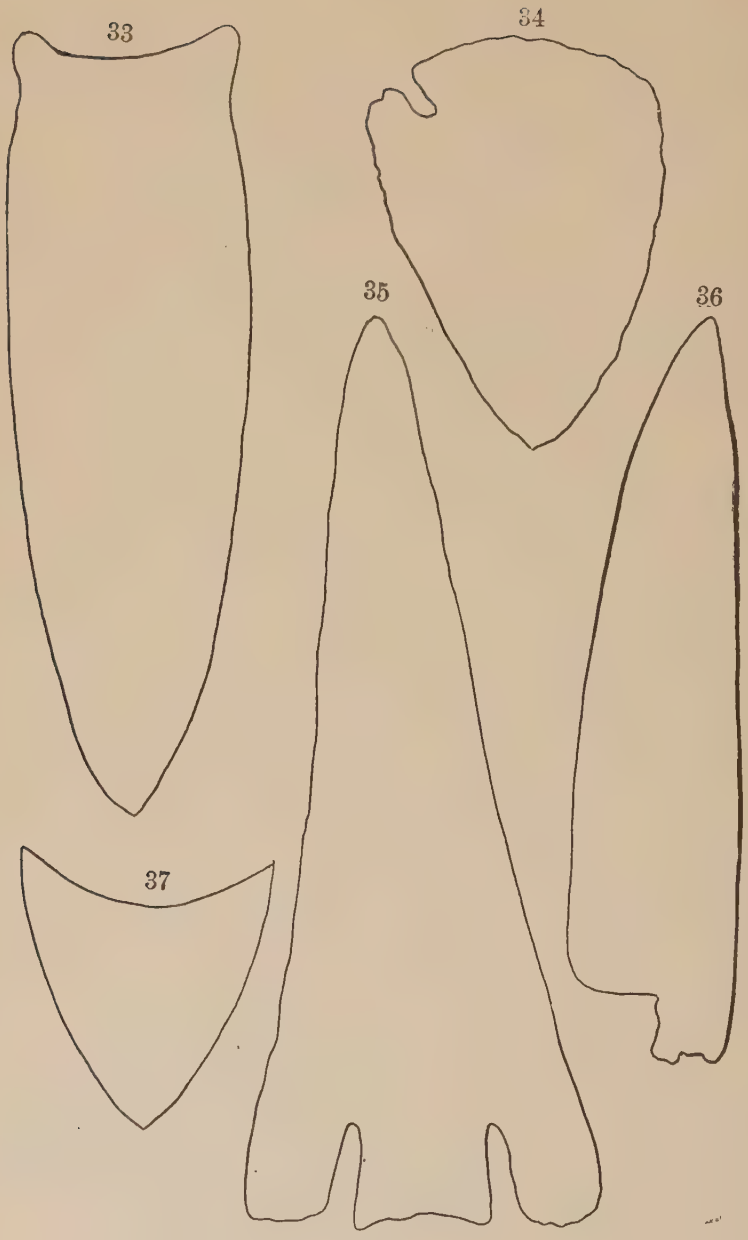
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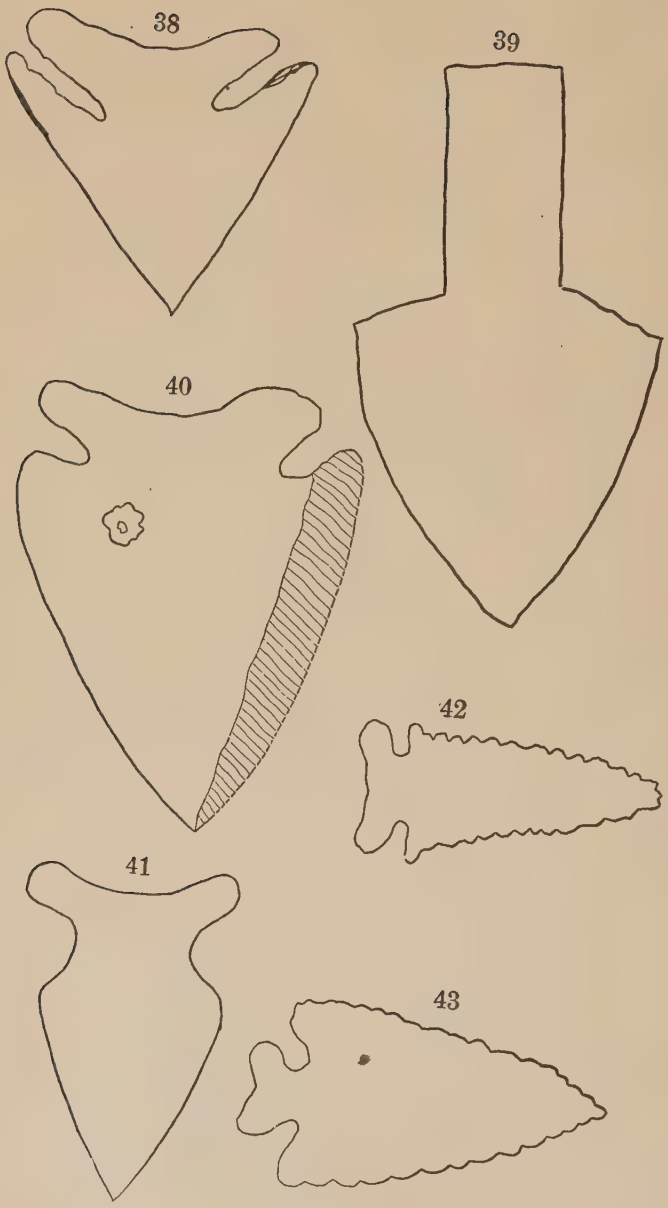
It has a highly polished, reddish surface, supposed to indicate great antiquity. A precisely similar specimen was in the Rhode Island Exhibit at the Centennial. Mr. Thomas Cleany has, in his very valuable collection at Cincinnati, two such specimens taken from a mound in Missouri; and Mr. Thomas W. Kinney has also one which was on exhibition in his collection at New Orleans, but the locality from which it was obtained is not given.

A similar form, of yellow jasper, from California, is figured in the description of the typical specimens in the Smithsonian Collection.

This peculiar form, from widely separated localities—all the specimens, so far as appears, are very old—some of them from mounds, tends to the conclusion that the Indians occupying, at least the northern part of the United States upon its discovery by Europeans, were preceded by a more artistic people.

Attempting to make no distinction between knives, daggers, and spear points, illustrations of some of the most marked forms are given in the plates of illustrations, figures No. 33 to 66 inclusive. Some of these, particularly No. 36, from Indiana, and No. 46, from North Carolina, are remarkably similar to modern knife-blades. Quite a large number of the arrow-point form, are symmetrically beveled on the opposite sides of the two edges, of which No. 40, from Knox county, is an illustration. This specimen carries a characteristic fossil of the coal measure limestone.

This form is by many regarded as intended to give a rotary motion to the missile, but this is very doubtful. Most of these beveled specimens are too large for arrow-points, and if used for spear-points, the small surface of the beveled edges would not give the rotary motion to a heavy missile. This form may be the result of the peculiar character of the material, the symmetrical beveling being determined by the position in which the object was held when chipped. Or, if designed, the object may have been to get a stronger cutting or scraping edge than would result from a flatter chipping.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Figures 39, from Mr. Kinney's collection, and 47, from Knox County, illustrate forms abundant in the southern part of the State. They are all very thick, short and broad, with long and strong shanks by which they were apparently fastened into sockets; none of them have notches to aid in binding them in place. Figure 87 illustrates, probably, one of the uses of this form. It is a modern war-club with an iron tooth, doubtless of the form of the flint tooth formerly used. Bancroft, in his "Native Races of the Pacific States," Vol. IV., page 210, gives an illustration of Yucatan sculpture, in which a figure is represented armed with probably what the Spanish invaders called stone swords, consisting of a club into which was fastened four chipped stones or flints; the weapon is illustrated in figure 88. These stout Ohio forms were very probably used in a similar manner.

Figure 45, from S. C. Heighway's collection, represents a form found in nearly all the collections in the southwest part of the State. All are very symmetrical, very elegantly chipped, generally of pretty large size, the specimen figured being one of the smallest. The shank is often very much smaller than that of the one figured, and often so delicate that if fastened to a handle it would be very liable to be broken. Every modern man or boy is not equipped for work or play, without his pocket knife; and it is suggested that the notched shanks of these and similar forms were not made, at least in all cases, for the purpose of attaching handles, but rather for attaching strings, by which the knives were securely tied to the clothing, to be always ready for all the uses made of the modern pocket knife.

Figure 53, from Logan County, is beautifully toothed on each edge, and is a remarkably delicate specimen of chipping. It could not be designed for use as an ordinary knife or spear, but was probably used as a kind of saw.

No. 44 is of white chert, very beautifully chipped, and was picked up on the site of an old manufactory of chert

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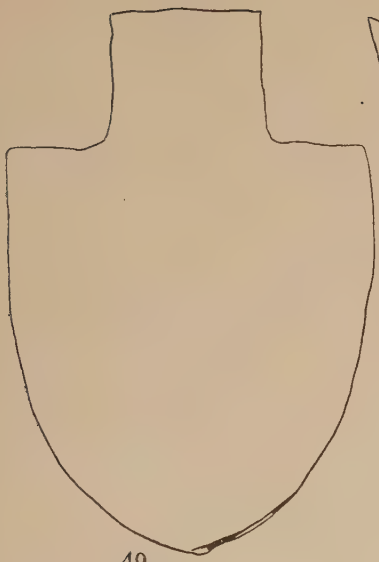

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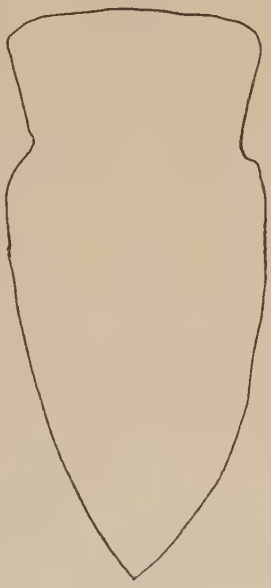

implements in the northern part of Trumbull County, and at a remote distance from any natural deposit of chert.

SCRAPERS, DRILLS AND PERFORATORS.

Figures 67 to 79 illustrate some of the forms of drills and scrapers from Mr. Kinney's collection, and 80, 81, and 84, specimens from Mr. Heighway's collection. There is almost an endless variety of forms, and some of them show wonderful skill in the art of chipping.

Figures 82, 83, and 85, represent specimens put on exhibition at Philadelphia by H. H. Hill, of Cincinnati, and are introduced to show some of the most unusual forms.

Figure 86 is quite unique, and illustrates a specimen belonging to Florien Giouque, Esq., of Cincinnati. The peculiar form is plainly designed, and not the result of accident, or of any flaw in the material. He calls it a fish spear, and the name may stand in default of a better one.

CHERT SPADES AND HOES.

Some remarkably excellent agricultural implements were put on exhibition, especially in the collection contributed by Mr. L. F. Bauder and Judge C. C. Baldwin, of Cleveland. Some of these were fully one foot long and six inches wide, chipped from chert in a way which would puzzle any modern artificer, with all his appliances, to imitate. Ordinary chert arrows and knives can be readily imitated, as the material yields to simple pressure upon the edges and can be flaked in shape. But how sufficient pressure could be applied to these large pieces to flake them into shape, and not entirely crush them, is a difficult problem to solve. These spades and hoes were attached to handles, and fastened in place by some material which covered from one-third to one-half their surfaces. This is shown by the limitation of the polished surface, as some of them have been used until the part brought into contact with the earth became as smooth as glass. Taking into account the difficulty in finding blocks of chert without

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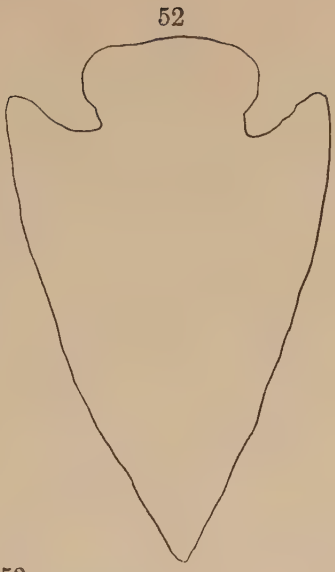
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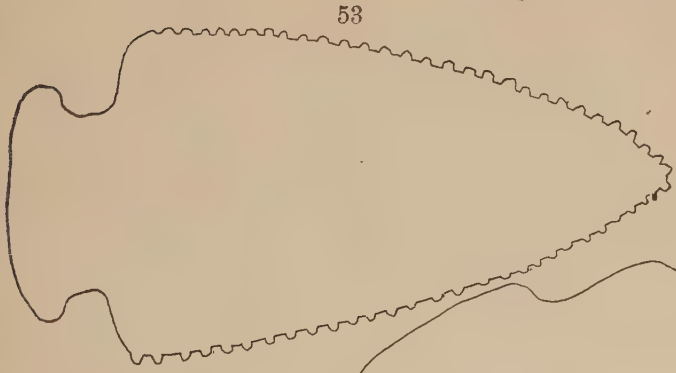
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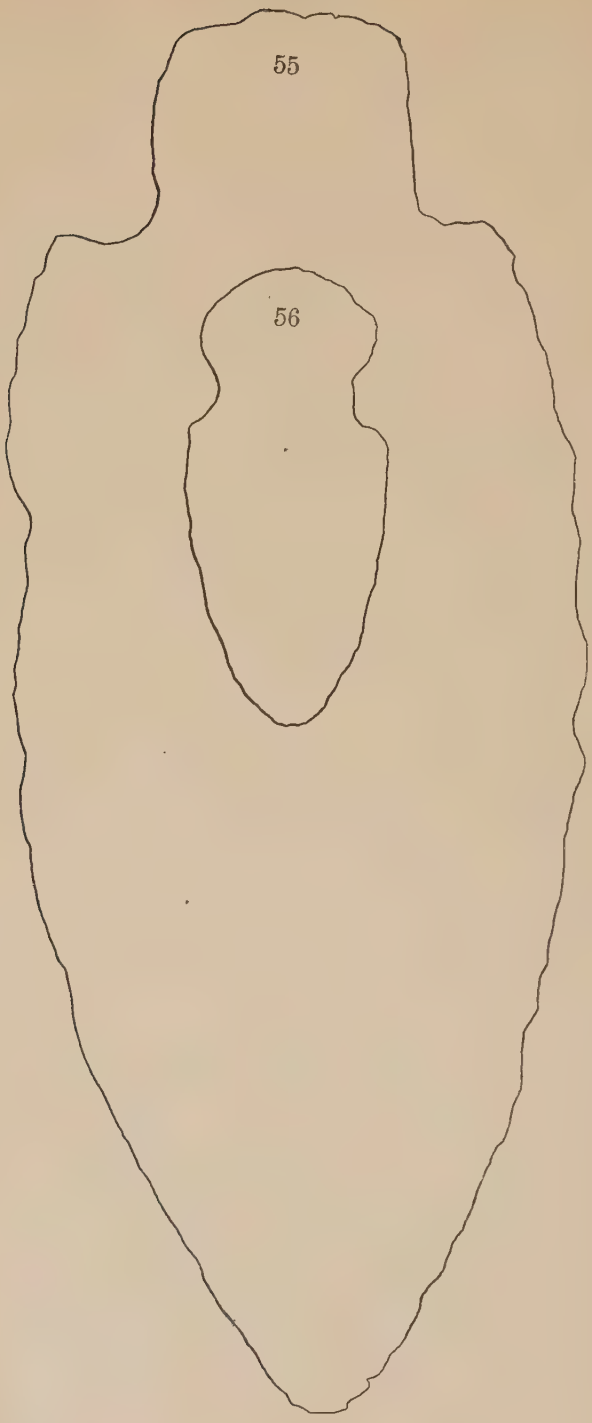
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flaws, large enough for the production of these tools, and the labor required to shape them, it is probable that spades and hoes to-day, of beaten gold, would not cost as much in days' labor as these old implements cost. Surely in the sweat of their faces did these old agriculturists eat their bread.

STONE IMPLEMENTS.

The boulders of the drift furnished the great supply of material for what are ordinarily called stone implements. These are found in the State in great profusion and of a variety of forms, some very roughly wrought, and others very highly polished. But in Ohio material does not exist for the determination of a paleolithic and neolithic age, unless we limit the latter to post-Columbian times. Very delicately cut and highly polished pipes of catlinite are occasionally found, probably wrought with modern tools obtained from the whites. Several such specimens were obtained from small mounds near Monroeville, Huron County. In other places pipes of this material are found inlaid with lead ornaments. Of course these are quite modern. The carefully wrought pipes, and other articles obtained from the mounds, indicate greater skill in the working of stone than was manifested by the hunting tribes, who occupied the territory upon the advent of the white settlers. So that if we should seek for a rough stone age and a polished stone age, the latter would be prior in time. The builders of the mounds evidently had a higher social organization than the hunting tribes, and would naturally excel them in the rudiments of the arts of civilization.

AXES AND BATTLE-AXES.

The grooved axes are among the most remarkable of Ohio finds. They present a great variety of forms, and range in size from a weight of one to sixteen pounds. Some even of the largest are highly polished, very symmetrial in form, are

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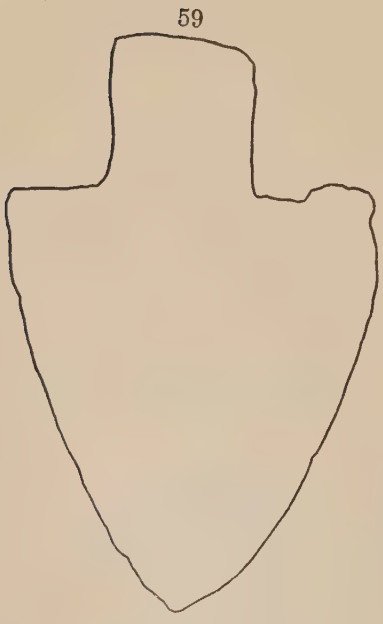
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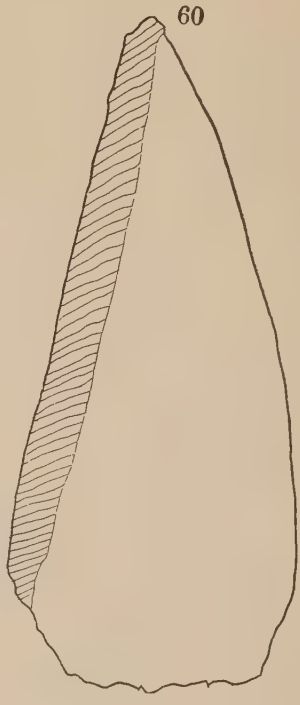
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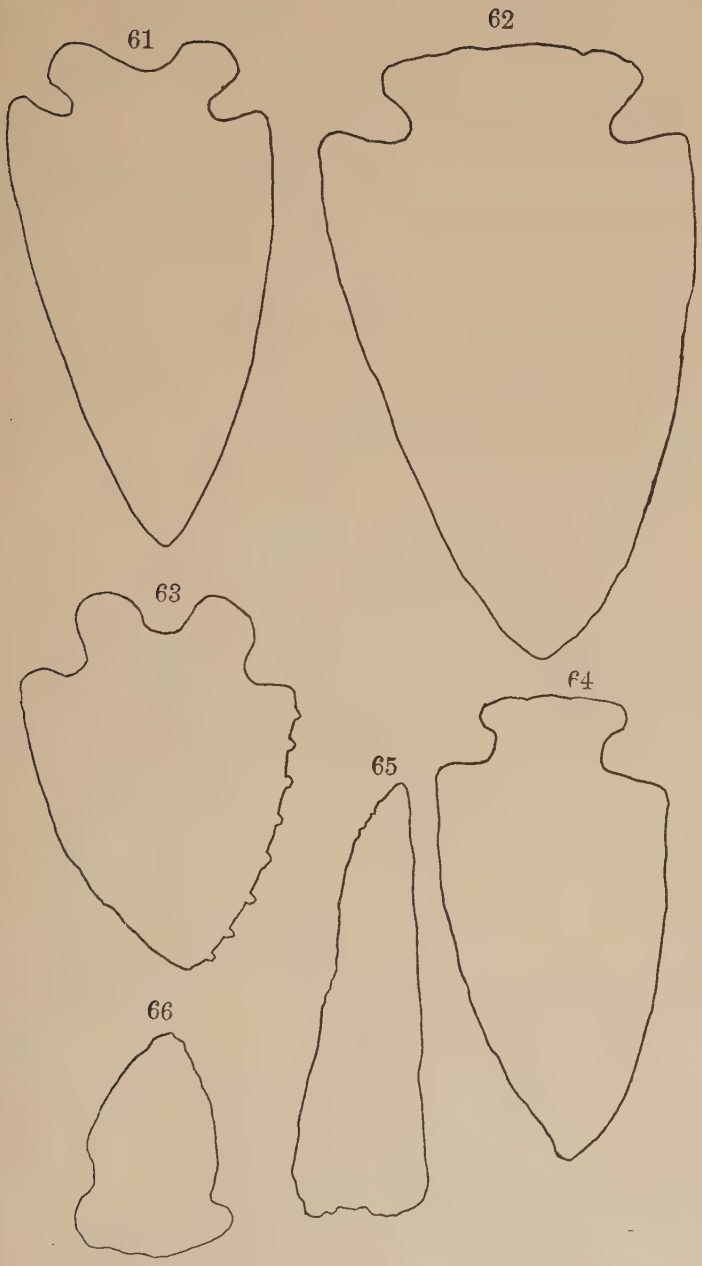
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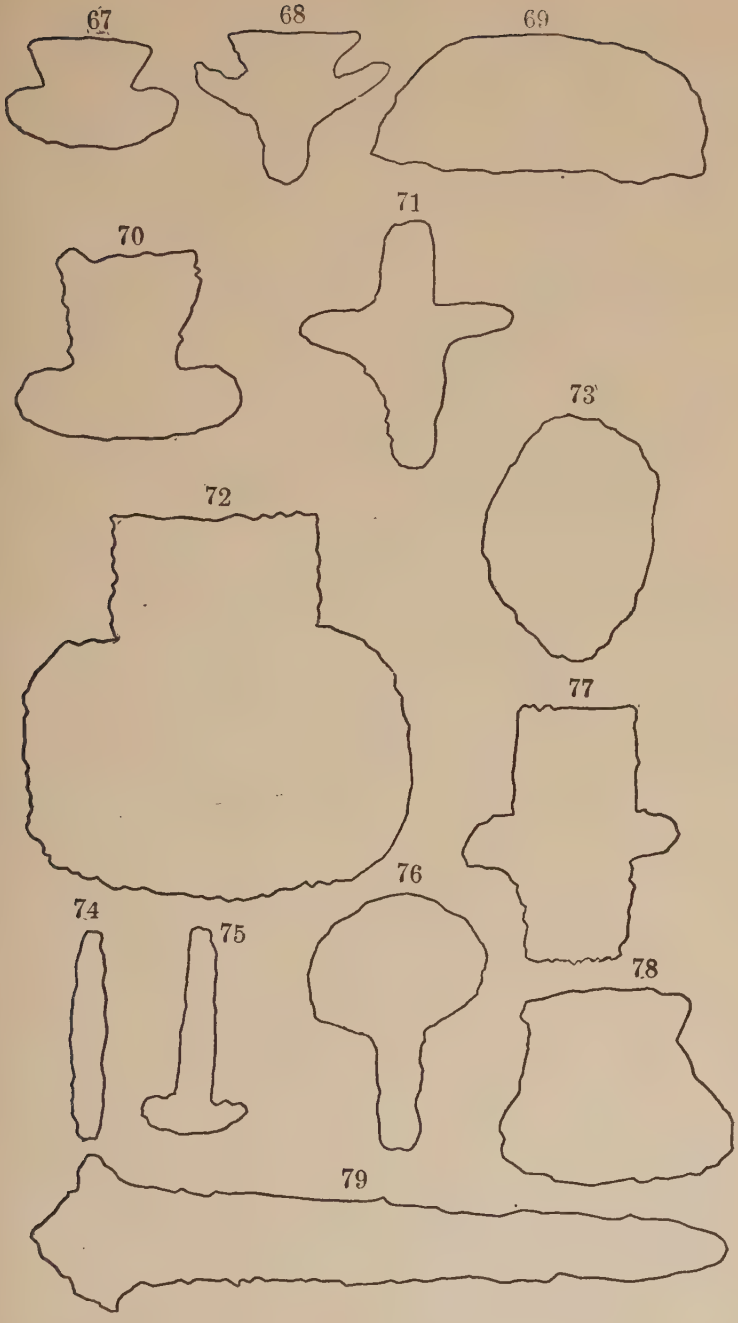
brought to as sharp an edge as the material will permit, each evidently representing many months of continuous labor.

Many of the forms indicate that they were handled by bending a flexible branch of the size of a small hoop-pole around the groove, and fastening it in place by thongs, or some similar material. A groove is sometimes made on one of the narrow sides, at right angles with the groove for the handle, and evidently intended to keep in place a wedge driven in to tighten the fastenings of the handle.

When we imagine one of the largest of these axes, with a handle proportioned, like the handle of a modern axe, we have to imagine with it a man to wield it, larger and stronger than Goliath, of Gath.

Through the kindness of W. H. Abbott, I obtained at the Exposition the cast of an axe found in Lake County, Illinois, at a place where several small mounds were plowed over. The axe and handle are wrought out of one piece, and the specimen doubtless illustrates the relative proportions of the axes and handles, when wooden handles were used, a proportion which must have been substantially preserved to enable any one to wield these large axes. The length of the axe, from poll to edge of bit, was seven inches; width of edge, four and a half inches; entire length of axe and handle, nine and three-fourths inches. It was intended to be used with one hand, and grasped so near to the axe the implement does not seem unwieldy. A greatly reduced outline of this axe is given in figure 93. Whether used in peaceful avocations, or as battle-axes, especially by foot soldiers, such short handles would be indispensable. For purposes of comparison, figures 95 are given, showing the size of battle axes in the hands of warriors, from sculptures copied by Rawlinson in his "Ancient Monarchies." At the right of each is a line showing the height of the figure of the soldier carrying the axe. Figure 94 is a copy of the battle-axe in the hands of a warrior, taken from one of the published cuts of the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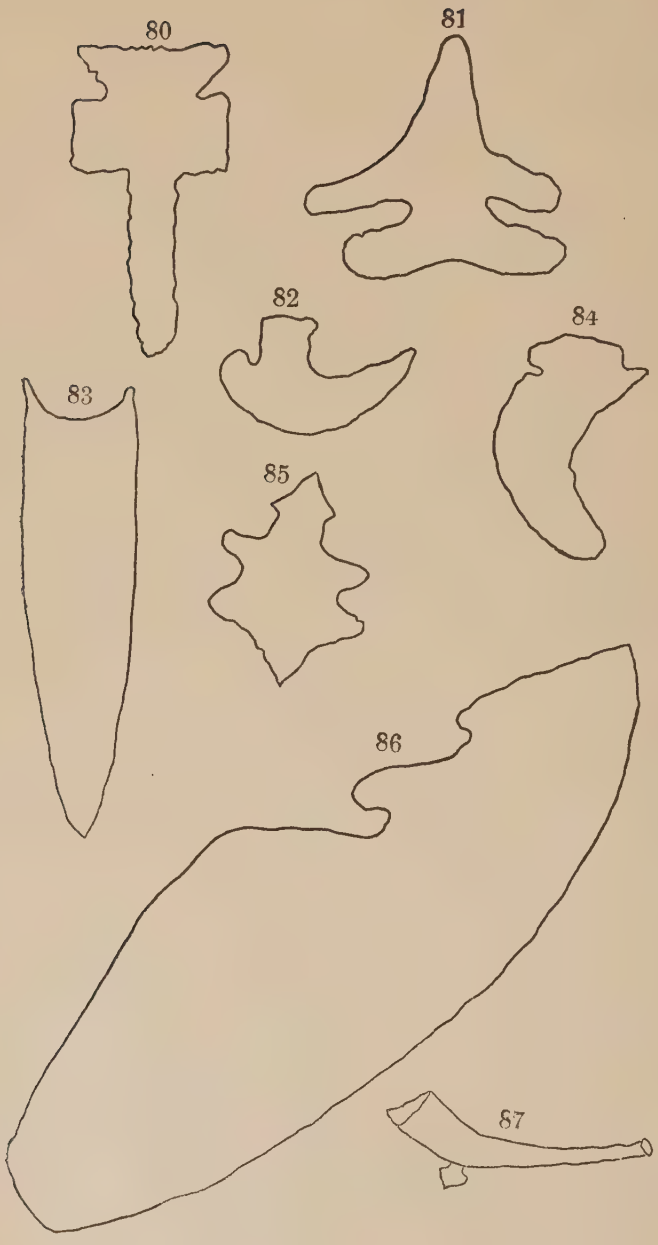
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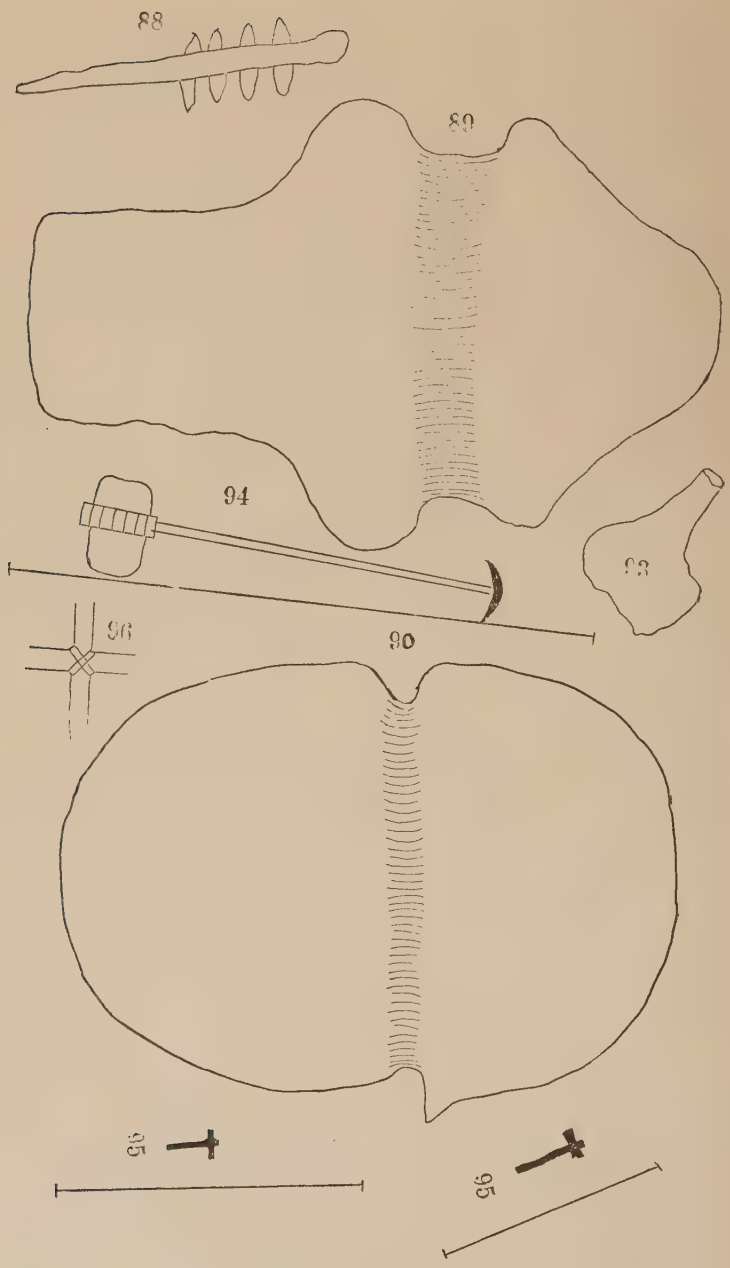
'Wilmington Inscribed Stones." The line at the right also shows the height in the engraving of the warrior carrying it. As he is evidently represented as on the war-path, carrying a spear in his left hand, and this battle-axe in the other, it is evident that the artist intended to represent an axe to be wielded with one hand. If the manner in which the axe is fastened to the handle is compared with the obvious mode of fastening two pieces, crossing each other at right angles as represented in figure 96, from a figure of a sculpture from Guatemala, and the use that is made of one of these delicate crescents of metamorphic slate, so common in Ohio, is noted, it will be evident that the artist committed about as many blunders as could be crowded into the delineation of a single object. If the relative proportions are observed, and the warrior was of the stature of six feet, the axe would be one foot long and with a handle of the length of about four and a half feet. It is attached to the handle in an impossible manner. An expensive ornament is attached to the end of the handle, the most inconvenient termination that could be devised, but which would fortunately be shattered by the first blow with the axe. Whoever may be the artist, and in whatever age he lived, he has certainly given us a fancy sketch of no value except to illustrate the skill and imagination of the artist.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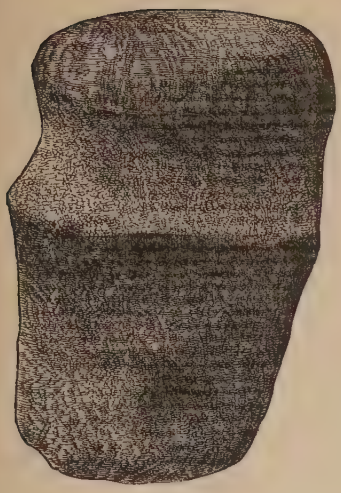

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Figure 90 is a full-sized illustration of a very beautiful and highly polished ornamental axe, of bluish green metamorphic slate, found near Fort Hamilton, in Hamilton County, which, so far as known, is a unique specimen. Figures 89 and 92 represent more common forms reduced one-half.

A systematic classification of the different forms is impossible. The workmen apparently selected natural boulders as near the form and size of the utensil to be formed as possible, and worked them into a useful shape with as little labor as possible, so that the forms they finally assumed were often more the result of accident than of the design of the workman.

Not all of the axes are grooved; occasionally a double-grooved specimen is found, and one double-bitted axe was on exhibition. It will be apparent that none of these axes were efficient cutting implements, yet a specimen of wood taken from a mound, and belonging to the Ohio State University, shows that a log could be cut off with a nearly square butt with these stone axes, and the marks of the axe upon it indicate a rapidity of execution quite remarkable.

HAMMER STONES.

These are symmetrical stones, oblong or round—sometimes plain, sometimes grooved—and occasionally double-grooved, two grooves passing around the stone at right angles to each other. While commonly called hammer stones, specimens obtained from the Western Indians are conclusive evidence that they were sometimes used, with handles attached, as war clubs, and very likely were mainly designed for this use.

Sitting Bull's war club, exhibited in the Montana collection, is a symmetrical stone in the form of two cones, applied base to base, grooved at the centre, to which is attached a flexible handle covered with raw buffalo hide, by which it is attached to the stone. The handle is thirty inches long and the whole constitutes a very formidable weapon for hand to hand combat, in the hands of a mounted man. Specimens similar to this, with a stiff handle made of the leg bone of a deer, and ten or twelve inches long, all covered with rawhide, are used by unmounted Indians.

Another specimen in the Montana collection shows another similar mode of using these stone balls. A spherical stone, about two and a half inches in diameter, is neatly covered with rawhide, which at one side is continued into strings, braided into a stout cord a few inches long. The end of this cord is attached to a flexible handle, the whole forming a slung-shot with which an enemy could be terribly punished.

Grooved Hammer.
Rockport, Cuyahoga county, Ohio, ½ nature.

Figures on Trojans column represent the Kelts in battle, loaded with such stones, which they are using as missiles, some throwing them with the hand, others with a sling. They were doubtless used by our Indians for a variety of purposes, peaceful and warlike, and some of them by their abrasion show their continued use as hammer stones.

CELTS, SKINNERS, ETC.

Of these there was a very large variety in the exhibit. They are chisel-shaped stones of different sizes, all brought to an edge, and some showing long-continued use. By some they are called bark-peelers, and if their name was to be determined by the purpose for which they were most used, it is probable that this name would be adopted.

Lumbering, with the Indian, was bark-peeling, and there was nothing within his reach supplying so many of his wants with so little labor, as bark. An Indian Paley would find in the fact that at certain seasons of the year the bark was so easily separated from the growing tree, his most marked evidence of a beneficent design, intended for the comfort of the race. With the whole sheets of bark he built his houses; with the inner layers he made baskets, clothing, thread, cord, ropes, etc., and doubtless used it many ways not suspected by us. In the gathering and preparing of this material these implements would be used, and also many of the sharp or serrated edged chert knives. Until we can compile a history of their arts, we can not determine all the uses of any of these implements.

PLUMB-BALLS, SINKERS AND PENDANTS.

The forms of these are almost as numerous as the specimens: some spherical, some cylindrical, some oval, some simple circular disks; and the kinds of material of which they are made almost equally diverse. They all have this in common, that they are relatively small, and are so perforated as to be easily suspended by a string, or have a small groove in which a string can be tied, for purposes of suspension. In the collection of the Smithsonian Institute obtained from Alaska, are stone sinkers, one of which is *six and a half* inches long, and over an inch in diameter at the largest point, attached as sinkers to the lines furnished with hooks for fishing. One would be slow to suspect the use of so heavy stone sinkers with so small fishing lines as those in this exhibit. Almost all tribes have learned the art of fishing with hook and line, and specimens of hooks found in Ohio, as well as in all parts of the country, indicate the practice everywhere here of the art which good old Isaac Walton has made classical.

With lines made of bark and the coarse fibers available, and unevenly and poorly twisted, requisite strength would

require large lines, and these would require correspondingly heavy sinkers. Doubtless these articles were sometimes used for other purposes, but none of them are too heavy sinkers for fishing, and it is probable that they were oftener used for this than for any other purposes.

MORTARS AND PESTLES.

Natural instinct everywhere prompts to the crushing, or grinding of grain to prepare it for food, and the first flouring mill is composed of two stones, one of which can be used with the hand in crushing the grain poured upon the other. This would soon be developed into the pestle and mortar, so easily made and so efficient that civilized man everywhere reverts to their use when better appliances fail.

When the Confederate forces were driven from Mission Ridge, flouring mills were found scattered along the whole length of the ridge. Each consisted of the stump of a tree hollowed out with the axe, and a round boulder picked up in the neighborhood. With these the soldiers prepared the grain for their corn-dodger rations. In the bed of a stream in a forest, in the north part of Ashland County, is a granite boulder of considerable size, in the top of which a cavity of a capacity of a peck or more has been laboriously picked. It would have been carried away long ago, to do service in an archaeological collection as a splendid specimen of an Indian mortar, had it not been disclosed that it was the work of a pioneer hunter who remained long enough in that locality to raise small crops of corn, and needed a mill in which to grind it. It still deserves to be rescued from its retreat and preserved as an illustration of pioneer history.

The indigenous races here seem never to have advanced beyond the pestle and mortar, although the hand-mill of two stones, one turning upon the other, seems to be readily suggested by them. Such a mill is a machine—the pioneer of all machinery—and these races apparently made no machines. Tools and implements of a great variety of forms, with

which the working power is muscular force, they had the skill to make, but not the skill to subject any of the forces of nature to their control. The hand-mill substitutes the force of gravity for muscular force.

The most intelligent animals use tools—the Gibbon fights with a war club, the monkey cracks nuts with a stone, and the elephant drives away the flies which annoy him, with a brush. The savage makes tools, but no machines. His bow and arrow and his blow-tube are not in the highest sense machines, for his muscular energy drives the missile.

The beginning of real civilization is made in the construction of machines by which the strength of animals and the forces of nature become a substitute for human muscular work. When the hand-mill is discovered, the force of the running stream is soon harnessed to it, and out of this combination grows the modern flouring mill with all its improvements. This first step was not made by these primitive races, and they must be classed as savages. While they did not advance beyond the mortar and pestle, they expended much labor upon them, and with very creditable results. As the mortars are generally very heavy, only two were put on exhibition, but the pestles were very numerous and of a great variety of forms. While they had no flouring mills, they prepared their grain both by the grinding and the roller process. The pestles with one broad, rounded end, were used for grinding; the long specimens, largest in the middle and tapering slightly toward each end, were used in the roller process as they are now used with the metate by the New Mexican and Pueblo Indians.

An unusual form of pestle is represented by figure 93, reduced one-half. It has a broad grinding surface, with a handle just long enough to be clasped with one hand and a peculiarly ornamented top. It was found upon the surface in Summit County. An illustration of a common form from the Cleveland Historical Society's Collection is also given, (figure 93a.)

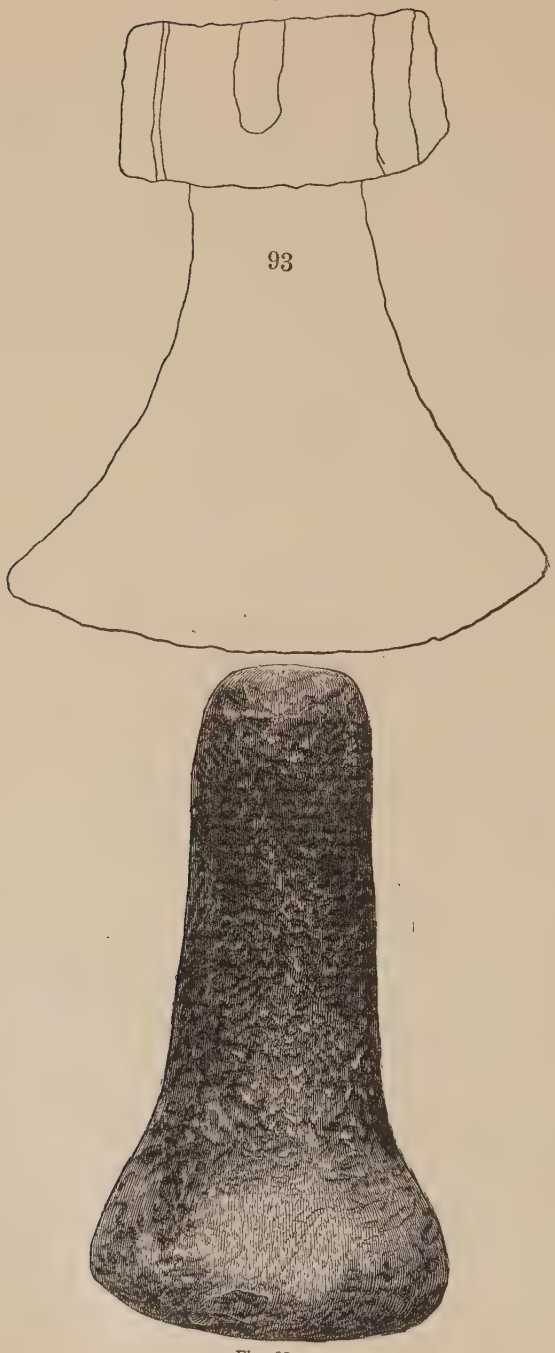


Fig. 93a.

CUP STONES.

These are sometimes called nut stones, and oftener foot-rests for spindles. They are very common in the State, and have been picked up in large numbers at the site of a series of old fire hearths in Summit County. A large collection shows that the cavities were commenced by an instrument like a pick, which left a conical, rough cavity, and were finally shaped by rotating some object in the cavity. When brought to the size of about one inch in diameter, they were apparently no longer used, as new cavities are commenced near their margins which enlarged to the same size would cut into them. They are made on natural fragments of rock, in this locality almost exclusively the debris of the carboniferous conglomerate, a coarse sand-stone with a sharp grit. With few exceptions throughout the State they are made in similar rock. A single fragment often bears several of these cavities and sometimes on opposite sides. If used as spindle rests, it is strange that so coarse a stone is selected which would make the friction much greater than if a harder rock were used.

Dr. Rau reports that some of the specimens in the Smithsonian collection still show traces of red paint in the cavities, and it is possible they were generally used to grind down pieces of hematite for paint. The specimens from this locality show no indication that they were formed by cracking nuts.

DISCOIDAL STONES.

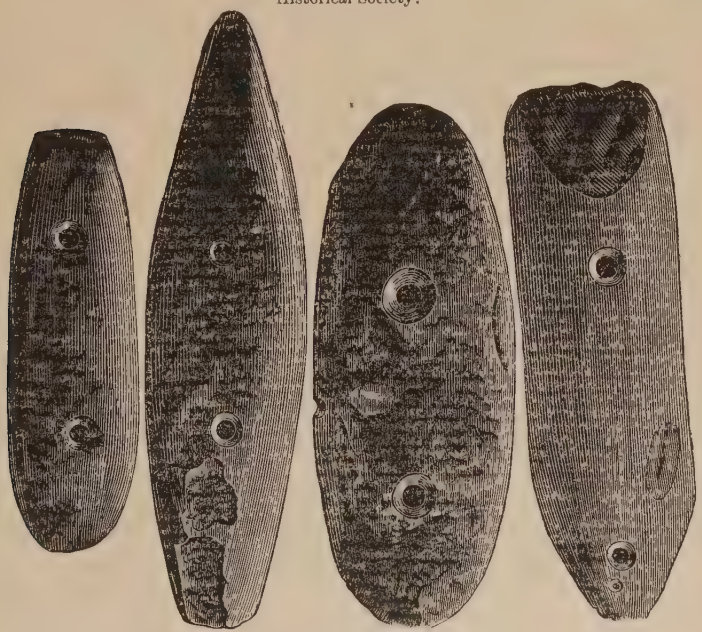
These, of various sizes, are tolerably abundant in the State, and some remarkably fine and large specimens were exhibited in the collection. Those of smaller size, and perforated at the center, were probably used as spindle weights. The larger and unperforated ones, perhaps in some game. Dr. Rau quotes from Adair a detailed description of the game of chungke as played with such discs, and this explanation of their use is the most probable one. See also "Relics of the Mound Builders," Western Reserve Historical Society Tract No. 23, by C. C. Baldwin.

STONE ORNAMENTS.

The metamorphic slate, found in the drift, was the favorite material for the manufacture of stone ornaments. It is often beautifully banded, is moderately hard, takes a fine polish, and is not easily broken or scratched. Oblong pieces, generally called "shuttles," are very abundant. Of these there are a great many forms, generally with two perforations on a central line, each one generally about equi-distant from the center and one of the ends. These holes are apparently counter-sunk, so that if attached to the clothing by cords passing through the holes, having a knot at the end, the knot would be below the surface. Unfinished specimens show that in perforating them, conical drills were used, giving a counter-sunk form to the holes. It has been suggested that they were used as shuttles in weaving, in smoothing sinews or cords drawn through the holes, or in twisting double-stranded cords, but the holes are almost uniformly as perfect as when first drilled, and either of these uses would quickly destroy their symmetry—certainly the striae left by the drill. That they were not made purely for ornaments, is indicated by the fact that a much coarser material than this ornamental slate is sometimes used in making them. An unfinished specimen from fine grained yellow Waverly sand-stone was picked up in Summit County, and a rock-shelter in the same county, in which all the remains were exceedingly rude, yielded one specimen from Waverly shale, unpolished, unperforated, but which had apparently been abraded or worn longitudinally on one side by a softer material than that by which it was formed.

It may have been attached to the left arm as a protection against the bow-string, and it is possible that the more perfct specimens were used for the same purpose. This use is rendered more probable by the fact that specimens are found in graves in such position as indicates that they were attached to the arm of the buried body.

½ Nature. Assorted Shuttles from Stones—Northern Ohio; Collection of the Fire Lands Historical Society.



½ Nature. Assorted Shuttles from Stones—Northern Ohio: Collection of the Fire Lands Historica Society.

BIRD-SHAPED ORNAMENTS.

These were largely represented in the collection, and are abundant in Ohio. They are formed out of this ornamental slate, and in most of the specimens the bird-form is very clearly intended. Some of them have projecting eyes that give them a strange appearance. They all have this peculiarity in common with several other ornamental forms into which this material is worked. On a central line at the base of each end a hole is drilled diagonally through the corner by which the ornament could be sewed to the clothing or other fabric in such a manner that the thread by which it was fastened in place would be concealed. Other ornamental pieces, of such form as not to admit of these concealed holes, are drilled through the central line from the top, the holes being so conical that a knot at the end of a cord drawn through the hole would be concealed, and the same result obtained, that is, the mode of fastening would be concealed.

In the collection of Dr. Griste, of Summit County, is one of these ornamental stones, exhibiting that peculiar polish which shows long continued use, while the striae left in drilling the diagonal holes are not worn down in the slightest degree.

BEADS AND TUBES.

Ornamental beads, sometimes nearly two inches in diameter, and flattened upon one side, composed of this same material, are sparingly found, and a few were included in the exhibit. Strings of similar beads are seen around the necks of sculptured figures from Mexico and Central America. It is obvious that such beads would be worn only by distinguished personages, and on state occasions.

Tubes of this slate, sometimes entire, but more frequently broken, have been gathered from all parts of the State. They are of various sizes, and many of them are as perfect

as if turned in a lathe and bored with a modern drill. Unfinished specimens show that in some cases, at least, the drilling left a core after the manner of the action of a diamond drill. The drill was doubtless a node of cane, its action assisted by sand and water.

The use made of these tubes is not clear, but the words, pipe and tube, have originally the same signification, and the earliest record of tobacco smoking on the continent shows that it was done by the use of tubes. The following is quoted from a small volume entitled, "A Paper of Tobacco," "By Joseph Fume," published at London, in 1839:

"Oviedo appears to have been the earliest writer on the history of America, who mentions the word tobacco, and from the account which he gives of the *ahumadas*, or smokings of Hispaniola, we learn that the word, *tabaco*, as it is spelled by him, properly signified a smoking-tube, and not the plant nor the stupor which was the result of the Indian manner of smoking it. His chapter entitled, 'Of the Tabacos or Smokings of the Indians of the Island of Hispaniola,' appeared for the first time in the second edition, published in 1535, from which the following is quoted: "The Indians inhabiting this island have, among their other evil customs, one which is very pernicious, namely, that of smoking, called by them, *tobacco*, for the purpose of producing insensibility. This they effect by means of the smoke of a certain herb which, so far as I can learn, is of a poisonous quality, though not poisonous in appearance. * * * The manner in which they use it is as follows: The caciques and principal men have small hollowed sticks about a span long and as thick as the little finger; they are forked in the manner here shown, Y, but both the forks and the stalk are of the same piece. The forked ends are inserted in the nostrils and the other end is applied to the burning leaves of the herb, which is rolled up in the manner of pastils. They then inhale the smoke till they fall down in a state of stupor in which they remain as if intoxicated,

for a considerable time. Such of the Indians as can not procure a forked stick, use a reed or hollow cane for the purpose of inhaling the smoke.'"

His descriptions show that the smoke was taken into the lungs, hence the speedy intoxication and stupor produced. This practice was evidently at first followed by Europeans, and was called *drinking* tobacco, as witness the following stanza of a moralizing tobacco-drinking poet, of the time of James I.:

> "The Indian weed withered quite,
> Green at noon, cut down at night,
> Shows thy decay—all flesh is hay,
> Thus think, then *drink* tobacco."

These quotations help to an understanding of the use of tubes for smoking, and suggest a reason for the very small bowls of very many of the pipes into which the tobacco was placed for smoking. Taken directly into the lungs, the smoke from a very small quantity would suffice.

The large, slightly trumpet-formed pipes from the Pacific Coast, described by Dr. Abbott, and the similar tubes taken by Prof. Andrews from Ohio mounds, were doubtless used for smoking, and probably substantially in the way first described by Oviedo, and if these Ohio stone tubes were used for the same purpose, they must be very old. When pipes with bowls were devised, of much easier construction, and more convenient for use, they would certainly supersede the smoking-tubes. These, as they became scarcer, might become more highly prized, and in places, be retained for sacred and ceremonial uses, as were flint knives by the Hebrews and stone axes by the Romans. Their use was, in places certainly, continued to recent times, as is evidenced by the iron mouth-piece attached to one of the specimens described by Dr. Abbott.

At the time of the construction of the Lake Shore Railroad, a pottery tube nearly of the shape and size of the largest tubes figured in Dr. Abbott's report, was taken from

a mound near Collinwood, east of Cleveland. It has a highly-polished surface, simulating salt-glazing, which is probably simply the result of long use. The base gradually diminishes toward the smaller end and about three-fourths of an inch from it is much reduced by a square offset. In it when found was a slightly flattened pottery ball, which would drop down the tube until stopped by this offset. It is called a horn, and by blowing in it, a sound can be produced audible at a long distance.

The fact that a louder sound is produced when the ball is in the tube, and the mouth of the tube elevated, favors the idea that it was designed as a horn. This interesting relic belongs to F. M. Wait, of Northfield, Summit County, and was loaned by him for the exhibition.

BANNER STONES, BADGES, OR WANDS.

These are made from the slate already described, all highly polished and exhibit great varieties of form. They are too fragile to bear any very rough usage; are all of a symmetrical bilateral form, and bored at the center with great accuracy to fit them for attachment to handles. Some of them are perfect crescents, but the gradual transition from these through pick-like forms to specimens quite straight, and from these to the winged and double-crescent forms renders it improbable that any were intended to represent the crescent moon. They represent no animal forms, and the ornamental battle-axe, previously described, is the only attempt I have observed to imitate any implement of peace or war. They can not be connected with any of the symbolic forms of the old world, and if intended to be symbolical, they belong to a sealed book of human history. The clew to their significance has not been found. They were doubtless used in civil or religious ceremonies, which were held in high consideration, as is evidenced by the number and variety of the specimens found, and by the great labor expended in their production. Unfinished specimens show that large blocks

were sometimes taken and carefully chipped away to a comparatively small size. Collectors of relics should remember that one rough, unfinished implement which many would throw aside as worthless, is often of more value than many highly-prized perfect specimens. It may help to a knowledge of primitive art not to be learned in any other way. The Indian picture-writing, it is believed, throws no light upon the use of these banner stones, and they probably belong to the age of the builders of the mounds, where a more dense, stationary and peaceful population and a more advanced organization would result in civic and religious ceremonials not practiced by hunting tribes. We may imagine the old priests or chiefs carrying these badges or wands in solemn procession, and of course understanding their significance, while we speculate in vain effort to understand them.

A broken specimen of one of these crescentic forms made of green gypsum, has been recently picked up in Summit County. This material is so fragile as to clearly indicate that it was intended only for ornamental or ceremonial use.

PIPES.

Smoking pipes of stone and of pottery of a great variety of forms and sizes are abundant in the State, and were well represented in the exhibit. In the State cabinet are some forty casts of elegantly carved specimens, obtained by Squire & Davis from Ohio mounds. Photographic copies of these were in the collection exhibited, and the remarkable character of the whole find is shown by the following quotation from Dr. Rau's report on the Smithsonian Archaeological Collection:

"Numerous stone pipes of a peculiar type were obtained many years ago, by Messrs. Squire & Davis, during their survey of the ancient earthworks of the State of Ohio. They have been minutely described and figured by them in the first volume of 'Smithsonian Contributions to Knowledge.' The

originals of these remarkable smoking utensils (presently to be described) are now in the Blackmore Museum, at Sailsburg, England; but the National Museum possesses casts of them, which enable visitors to become acquainted with their character. These pipes were formerly thought to be chiefly made of a kind of porphyry, a substance which by its hardness would have rendered their production extremely difficult. That view, however, was erroneous, for since their transfer to the Blackmore Museum they have been carefully examined and partly analyzed by Prof. A. H. Church, who found them to consist of softer materials, such as compact slate, argillaceous iron stone, ferruginous chlorite and calcareous minerals. Nevertheless they constitute the most remarkable class of aboriginal products of art thus far discovered; for some of them are so skillfully executed that a modern artist, notwithstanding his far superior modern tools, would find no little difficulty in reproducing them.

"Four miles north of Chillicothe, Ohio, there lies close to the Sciota River, an embankment of earth somewhat in shape of a square with strongly rounded angles and enclosing an area of thirteen acres, over which twenty-three mounds are scattered, without much regularity. This work has been called "Mound City," from the great number of mounds within its precinct. In digging into the mounds, Squire & Davis discovered hearths in many of them which furnished a great number of relics, and from one of the hearths nearly two hundred stone pipes of irregular form were taken, many of which, unfortunately, were cracked by the fire or otherwise badly damaged. The occurrence of such pipes, however, was not confined to the mound in question, others having been found elsewhere in Ohio, and likewise in mounds of Indiana. In their simple, or primitive form, they present a round bowl rising from the middle of a flat and somewhat curved base, one side of which communicates by means of a narrow perforation, usually one-sixteenth of an inch in diameter, with the hollow of the bowl and represents the tube, or rather the mouth-piece of the pipe, while the other

unperforated end forms the handle by which the smoker held the implement and approached it to his mouth. A remarkably fine specimen of this kind was found in a mound of an ancient work in Liberty township, Ross County, (Fig. 177.) In the more elaborate specimens from Mound City, the bowl is formed, in a few instances, in imitation of the human head, but generally of the body of some animal, and in the latter cases the peculiarities of the species which have served as models are frequently expressed with surprising fidelity. The human heads, undoubtedly the most valuable specimens of the series, evidently bear features characteristic of the Indian race, and they are further remarkable for the head-dress, or method of arranging the hair, (Fig. 178.) A few of the heads show on the face incised ornamental lines, obviously intended to imitate the painting or tattooing of the countenance. The following animals have been recognized: The beaver, (Fig. 179;) the otter, with a fish in its mouth, (Fig. 180;) the elk, bear, wolf, panther, wild-cat, raccoon, opossum, squirrel and sea-cow (Manati, Lamantin, *Trichecus, manatus*, Tin.) Of the animal that is supposed to represent the sea-cow, seven carvings have been found. This inhabitant of tropical waters is not met in the higher latitudes of North America, but only on the coast of Florida, which is many hundred miles distant from Ohio. The Florida Indians called this animal the "big beaver," and hunted it on account of its flesh and bones. More frequent are carvings of birds, among which the eagle, hawk, falcon, turkey-buzzard, heron, (Fig. 181;) several species of owls, the raven, swallow, parrot, duck, and other land and water birds have been recognized. One of the specimens is supposed to represent the toucan, a tropical bird not inhabiting the United States; but the figure is not of sufficient distinctness to identify the original that was before the artist's mind, and it would not be safe, therefore, to make this specimen the subject of far-reaching speculations. The amphibious (?) animals likewise have their representatives in the snake, toad, frog, turtle and alligator. One specimen shows the

snake coiled around the bowl of the pipe. The toads, in particular, are faithful imitations of nature. Leaving aside the more than doubtful toucan, the imitated animals belong, without exception, to the North American fauna, and there is, moreover, the greatest probability that the sculptures in question were made in or near the present State of Ohio, where, in corroboration, of this view a few unfinished pipes of the described character have occurred among the complete articles.

"Pipes of this type are generally of rather small size, and in many the cavity of the bowl designed for holding the narcotic is remarkable for its insignificant capacity. These pipes were probably smoked without a stem, the narrowness of the perforations in their necks not permitting the insertion of anything thicker than a straw or a very thin reed. Yet most of the pipes of earlier date, occurring in mounds or on the surface of the ground, are provided with a hole of suitable size for the reception of a stem. A very remarkable stone pipe of this character, obtained during the survey of the Ohio earthworks by Squire & Davis, was found within an ancient enclosure twelve miles below the city of Chillicothe. It represents the body of a bird with a human head, exhibiting strongly-marked Indian features, (Fig. 182.) The original, not having been exposed to the action of the fire, is in an excellent state of preservation and retains its original beautiful polish.

"The name 'calumet pipes' has been given to large stone pipes which were smoked with a stem, and are usually fashioned in imitation of a bird, mammal or amphibian, and sometimes of the human figure. They were thus called, on account of their bulk, which seemed to indicate their character as pipes of ceremony, to be used on solemn occasions. It was further thought these pipes had not been the property of individuals, but that of communities, a view which does not seem to be altogether correct, since some have been discovered in burial mounds, accompanying a single skeleton.

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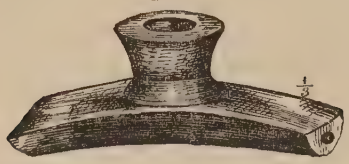

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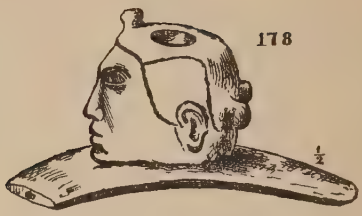

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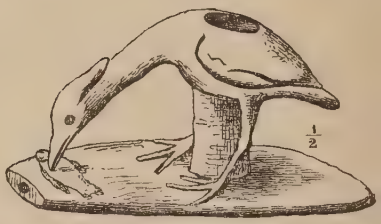

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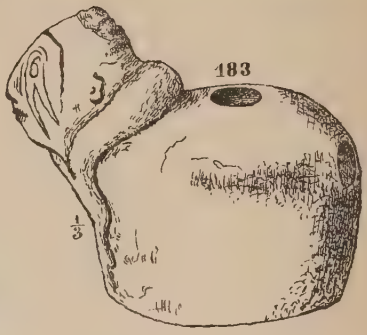

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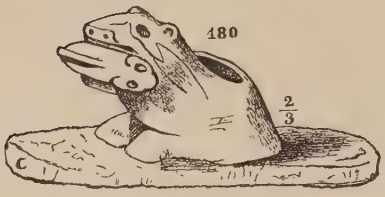

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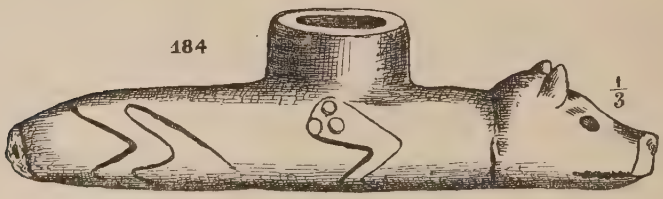


"A pipe of the kind just mentioned, is made of ferruginous sandstone, and represents, rather rudely, a human figure with a snake folded around its neck, (Fig. 183), from Paint Creek, Ross County. Another large calumet pipe, carved in imitation of a quadruped of the canine family, (probably a wolf,) consists of chlorite, and was found in Ross County."

The small size of the bowl cavities of these pipes may probably be explained by the primitive mode of smoking already described, for which a very small quantity of tobacco would suffice, and so far as we can learn the primitive use of all narcotics and intoxicants was designed not to quiet the nerves or produce a pleasurable enjoyment during their use, but to produce the complete suspension of all sensation, and as quickly as possible.

These artistically-wrought pipes from the mounds show a much higher degree of skill than was shown by the hunting tribes, indicating a higher culture on the part of the mound builders, and a greater advance toward civilization.

Among the casts in the State collection is one of a calumet pipe representing a bird, with partially expanded wings, measuring a little over nine by twelve inches. This was found in Mississippi.

Near Willoughby, in Lake County, is a site of an Indian village which has furnished a great variety of relics. A very interesting and instructive collection of pipes, finished and unfinished, was made from this locality, which is now in the Metropolitan Museum, of Central Park, New York. These show that water-worn pebbles were selected, exhibiting slightly an animal form, which the pipe-maker pecked into a more perfect animal shape without much apparent design of imitating any particular species. These were the work of modern Indians, and greatly inferior to the specimens obtained from the mounds.

Pottery pipes of various forms are more sparingly found, and one specimen only have I seen from hammered copper. Pipes of catlinite, the sacred pipe-stone of the Indians, are found, but they seem to be quite modern.

HEMATITE.

This seems to have been esteemed one of the precious stones, and was wrought by much labor into many forms. In Mr. Kinney's contribution were several highly polished small celts or axes, but whether intended as ornamental tools or for use, it is hard to determine. It contained also a very artistically-carved image of the beaver, only about one inch long, and considering the hardness of the material, perhaps the most perfect specimen of carving found in the State. It contained also several highly polished pendants or sinkers, and a number of half spheres of this material. These were worn on all sides by rubbing, and probably the abrasion of the material by rubbing furnished one of the most valued of paints. There are indications that the common Ohio iron ores were used for paint, and that the advantage of roasting them for that purpose had been learned.

In a mound at the top of a hill several hundred feet high, opened by Mr. Peter Neff, in Knox County, a considerable amount of roasted iron was found which must have been taken from the plain below.

BONE AND IRON IMPLEMENTS.

Messrs. Bauder and Baldwin exhibited a collection of bone bodkins, awls and needles, obtained from the site of the Indian village, near Willoughby, already mentioned. This place has furnished the most perfect collection of bone and horn implements of any place in the State, much of which was collected by Mr. Williams, of Chagrin Falls. Speimens of deer's horn obtained show the work of cutting instruments operating like saws by which the thickest part of the horn was cut into strips longitudinally effecting a great saving of material and adapting it to the production of small bodkins and needles. The bones of almost all animals were utilized, but mainly for the production of sharp-pointed instruments.

Mr. Kinney's collection contained many specimens of bears' teeth and claws perforated to be strung as ornaments, and several long strings of bone and shell beads; also several perfect imitations of bears' claws in cannel coal. The teeth and claws of predaceous animals seem to have been highly prized everywhere as ornaments, and were probably worn as evidence of the prowess of the hunters in overcoming these formidable animals.

COPPER IMPLEMENTS.

Col. Charles Whittlesey has collected information in regard to 720 pre-historic copper relics found in Ohio, and nearly all of these were taken from mounds. The number of specimens found in other localities is so small that we may safely assume that the manufacture of implements from this material was confined to the builders of the mounds.

It was, in their hands, a maleable stone. They did not understand the art of melting it, and casting objects from it. Laboriously hammering it into the desired forms, it was only the larger fragments that could be put to the best uses and with much waste in trimmings, that could be utilized only for beads and small ornaments.

This mode of working it developed a quality which has puzzled many archaeologists. It gave to the metal a degree of hardness which it never acquires under the ordinary mode of working it, and resulted in better cutting tools than could be made by castings unless the copper was alloyed with other metals.

Relics of this metal are so highly prized that the owners are reluctant to take the risk of sending them to distant localities, and but few specimens were exhibited. Several were exhibited by Mr. Kinney, among them a very beautiful axe in the form of a modern Indian tomahawk, the history of which was not given; but it is pretty certainly not the work of the Indians or of the mound builders.

In the collection of the Ohio University, there was a copper adz, chisel, and bodkin, taken from a small mound in Summit County, with a number of stone implements of peculiar construction, a large stone pipe, many large sheets of mica, and a large piece of galena. These articles thus grouped show a system of exchange by which articles were secured from distant localities

But a very small part of Ohio mounds have been thoroughly explored, and a completion of the explorations will doubtless increase very largely our knowledge of the prehistoric copper implements of the State.

POTTERY.

The remains of pottery in the form of fragments are very abundant in the State, while perfectly preserved vessels are comparatively rare. They are all of coarse character, imperfectly burned, and generally composed of clay and powdered shell. Specimens obtained from a rock shelter in Summit County, show the use of powdered quartz pebbles of the adjacent carboniferous conglomerate, mixed with clay. These exhibit markings on the outside such as would be produced by beating the inner bark of the basswood, macerated in water, until the fibres were crushed and separated, and using this as lining to a cavity or model to be plastered with the prepared clay. The upper margin is generally turned outward and pierced with holes for handles, made while the material was soft and plastic. An entire vessel from the collection of the Fire Lands Historical Society, of Norwalk, exhibited at Philadelphia, indicates the use of grass as a lining to the mold in which it was formed.

There were two perfect vessels in Mr. Kinney's collection in New Orleans, one in the form of a small basin, the other a large vase.

The forms and texture of the pottery from all parts of the Mississippi Valley, are very much alike, but with an increased tendency to the west and southwest to adopt the human and

animal forms so abundant in New Mexico. Specimens obtained in Ohio are mostly found in rock shelters and in mounds.

The earliest manufactured vessels everywhere were of pottery, and the study of ancient ceramic art is especially interesting to the archaeologist. Similar forms are found everywhere, and are often continued in more costly material. In many instances these forms can be traced back to the time when all vessels were formed of natural products. The delicate long-necked bottles or vases, now made of Bohemian glass, are substantially of the same form as the orthodox whiskey bottle of forty years ago; are exact copies in glass of the pottery water coolers now made in India, Africa and South America, of which many specimens were exhibited at Philadelphia, and which are found in the earliest collections of pottery known. All are imitations of the earliest bottle used—the gourd with its long neck. The Rhyton, brought to the Greeks from Egypt, and of which substantially similar forms were exhumed by Schlieman, perpetuated by the Greeks and Romans in silver and other costly material, was a drinking cup which could not be set down until its contents were emptied. Its origin is clearly preserved in its name, "drinking horn," and its use, in the slang phrase, "taking a horn;" and the practice still preserved in many places in drinking bouts of reversing the cup upon the table as an indication that it is empty. Originally it was a veritable horn which could stand only in a reversed position. The ancient vases found in America, in pottery, and in Europe in silver and other costly material, with small rounded bases which required tripods for their support, would never have taken such forms as original inventions. They were imitations of vases made from the shells of nuts and other natural productions. Hence similar forms found in widely separated localities, do not indicate community of race or commercial intercourse, but that man everywhere was at first dependent upon natural productions, which he adapted to his wants, and afterward imitated, and gradually modified their forms.

SHELLS.

Fresh and salt water shells were largely utilized by the primitive inhabitants of the State. The sharp edges of the fresh water muscles made them valuable as knives and scrapers, and the contents of mounds show that they were used as spoons, cups for holding paint and other articles. From the large salt-water univalves they made excellent dippers, and inscribed circular ornamental disks which were apparently worn upon the breast and were often buried with the dead. They were favorite material for the beads, of which many are found preserved in graves, and would naturally be used for a variety of purposes, some of which may not be apparent to us.

ROCK SHELTERS.

Caves adapted to human habitation are very rare in Ohio, but rock shelters, which would afford protection from the weather, are abundant. These have been very inadequately explored. Every rocky projection under which a benighted hunter would seek protection, if there is a dry surface below it, will, on examination, show evidences of human habitation, and sometimes of a habitation greatly prolonged. Such a rock shelter in Summit County, already referred to, was explored by me some years ago, and a description contributed to the *American Antiquarian*. As this may be regarded as a typical rock shelter, and a description of it may lead to other explorations, the greater part of the communication to the *Antiquarian* is here copied:

"In the eastern part of Boston township, the outcrop of the carboniferous conglomerate exhibits bold bluffs, fissured with ravines, with large masses of detached rocks at the base of the bluffs, where the rock has been undermined, and broken by its own weight, or else detached and pushed out of place by the ice. So-called caves, which are simply long fissures in the rocks, are abundant, often with springs of pure water at the bottom, while the margin and detached

rocks afford shelters which would be attractive places for residences to those unable to build comfortable dwellings. Among these detached rocks is one shelter composed of two large blocks, twenty or more feet in diameter, separated about fifteen feet with a huge block resting upon the top at the height of about twelve feet, making a large, perfectly protected room, open only at the north and south, and the northern opening perfectly protected from storms by its close proximity to the adjacent bluff. Such a rock shelter it is evident would afford a much better family dwelling than could be easily erected without good cutting tools, and would certainly be occupied by people having the characteristics of our native races. The abundant springs of water, the abundance of game to be found in this wood-covered, broken region, not far from the Cuyahoga River, which was one of their channels of communication, would be sure to attract occupants.

"The exploration of this shelter was made in the early part of June, 1878. After removing a few inches of vegetable mold, a mixture of ashes and earth was reached extending to the depth of from four and a half to five feet at the bottom, filling fissures and covering rock fragments which originally rested on the floor of the cave, and which the occupants did not attempt to remove. These scattered blocks covered the sandy debris of the conglomerate and were gradually buried beneath the accumulated deposits of ashes and dirt, the evidences of long-continued occupancy.

"The whole of this material was filled with evidences of the use of the place as a human residence—pottery, bones, shells, and stone implements. In the deposit of these there was no sudden transition. The bones near the top were in a good state of preservation; those that had not been changed by the fire, not blackened, but colored slightly yellow by lapse of time. They became darker and less abundant as the excavation was carried deeper, and substantially disappeared before the bottom of the excavation

was reached, showing that the earliest occupancy was so long ago that the bones in the dry shelter had been consumed by time.

"Over two hundred and fifty fragments of pottery were collected. This had been manufactured in the immediate neighborhood, for it was composed of clay in which had been mixed coarsely pulverized fragments of the quartz pebbles of the conglomerate. It was all coarse without any attempt at ornamentation for the sake of ornament. The outside of most of it and the inside of a part of it was minutely marked by sharply-defined depressions or casts, not the marks of basket work or braided grass, but such as would be produced if a mold for the formation of a vessel had been lined with the macerated and beaten bark of the elm or basswood. The mode of manufacture indicated is as follows: A cavity was formed in earth or sand, of the form of the outside of the vessel; a coating of bark was prepared by macerating in water, beating it with stones until the fibers were partially separated, and the whole mass rendered soft and plastic. With this the cavity was lined and then plastered with the prepared clay. After it had sufficiently dried, the whole was lifted out of the mould and ultimately burned in the fire. In other cases a mold was formed of the form of the inside of the proposed vessel, covered with bark, and the clay plastered upon the outside of it. This of course results in leaving the bark markings on the inside of the vessel.

"Three forms of the rim or upper edge of the vessels were observed, one terminating abruptly without any curve, or angle; one with an outer angle about three-fourths of an inch from the margin, and one with a regular outward curve. Small holes were made in the pottery, when soft, near the edge of the rim, and in one fragment a hole had been drilled of a conical form, after it was burned, probably—certainly after it was dry. The pottery near the bottom of the excavation was less abundant, heavier and coarser, but made in a similar manner.

"The stone implements were abundant, but most of them rude and coarse, only eleven flint or chert implements, and among these two small perfect arrow points, one fragment of a spear or knife, two scrapers and one rimmer; the others were flakes or irregular fragments.

"There was one fragment of a polished stone implement. This was the bit of a flat-sided celt or gouge, which was of especial interest from the fact that it had been broken at the edge, and repaired by bringing the nicked part down to an edge; this was done by pecking out the substance of the stone in a groove running back a little over an inch till a new edge was obtained by a depression in the bit. The repaired portion was not polished.

"There was one fragment of a polished granite hammer, several water-worn boulders, evidently gathered for hammer-stones, fourteen flakes from conglomerate pebbles, and sixteen from water-worn drift pebbles. Both of these materials were utilized by striking a slice from one side, which would naturally produce a cutting edge on the side opposite to that on which the breaking force was applied. Oblate forms of these pebbles were selected, as they would yield a better shaped flake. One wrought but unfinished stone implement was found of the form called by some, 'shuttles,' but unpolished and without perforations. It was from the material of the local shales.

"The most abundant of the stone implements were cutting tools or knives. Of these, seventy-five were gathered, made from the local shales and the shales of the drift. They were all primitive forms of the stone knife, the material split in such manner as to secure a cutting edge, with the least labor, and without any attempt to secure any particular form, some showing that after the cutting edge had been dulled by use, it was sharpened by blows upon the edge.

"Besides these there were about twenty rock fragments apparently broken out for rude scrapers or as a material from which to make cutting tools.

"All showed a meagre supply of material, and but very slight skill in adapting it to use. The great bulk of the material was from the immediate neighborhood, the pebbles of the conglomerate and of the drift and the shales which crop out in the valley.

"Not a single article was found designed for ornament, nor was there any attempt to ornament any of the articles found. Everything seemed adapted to the necesssities of the lowest savage life.

"The relative proportions of the different kinds of implements, and the fact that the most of those of polished stone and chert were fragments, and the mode of repairing one of these fragments, indicate that the crude forms alone were of home production, while the others were either picked up from the ground, or obtained from other tribes.

"An abundance of bone fragments indicated the large use of animal food. Every shaft-bone, and the lower jaws of all the larger animals were so broken that every particle of the marrow could be extracted, and there was a rude attempt to fashion a few of the bone fragments into useful forms. Over a half-bushel of these fragments was collected, and from the meagre supply of materials for tools, it was quite remarkable that no more use was made of these fragments.

"Among the bones could be identified those of the bear, the wolf, the beaver, the hedgehog, the deer, the buffalo, the raccoon, the skunk, the chipmunk and the fox. There were a number of the bones of birds, of which those of the turkey and large blue herron were probably identified. A number of mussel shells from the Cuyahoga were also found. In the fragments of the jaws and in the whole jaws the teeth were ordinarily in place, showing no attempt to use these as ornaments or otherwise. The fire seemed to have been built near the center of the shelter, and the bulk of the bone fragments were found upon the west side, and of the pottery upon the east, showing the ordinary savage division of labor,

the care of the cooked food being given to those on one side of the shelter and that of the cooking and cooking utensils to those occupying the other side. It is not difficult to imagine that the latter was the quarter of the women."

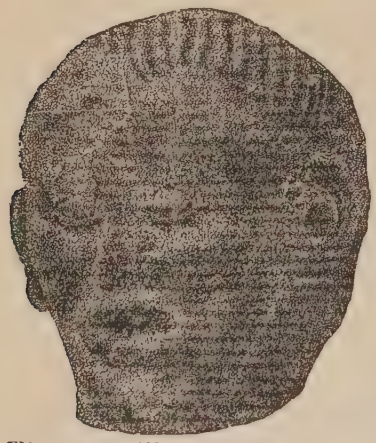
HUMAN EFFIGIES.

Effigies of the human face and figure, carved in stone, are abundant in Ohio relics. An entire figure in a sitting position laboriously worked out of granite and with marked Indian features, was exhibited by Mr. Kinney, and called an "Idol," but there is no evidence that it deserves that name, unless it is used in its primitive sense, meaning simply an image and not suggesting any religious worship. Children and savages everywhere make early attempts to delineate the human figure, and with results remarkably similar. Attempts to carve the human figure soon follow the attempt, involving greater labor, but producing much more satisfactory results, for savage artistic skill is never equal to giving any roundness or projection to a drawing. A pretended savage drawing that attempts to do this may pretty safely be set down as a fraud and the work of one who has learned something of the laws of perspective.

Several images have been obtained from Stark County, one a grotesque figure carved in variegated marble and represented as obtained in sinking a well and at the depth of twelve feet, aud below a stratum of very compact yellow clay. It was discovered in a bucket of boulders when brought to the surface from the bottom of the well, and believed by all present to be taken from the bottom. If really found in such a place, it would carry back the life of the sculptor to the age of the drift. All who have seen it seem to have no doubt of its being a work of art, but its very crude character, as shown by an engraving from a photograph, suggests the possibility that the form is the result of accident. (A wood-cut of this image is here introduced.)

The probabilities are so much against the finding of a carved image in such a position, that it would be more reasonable to suppose, if a genuine carving, that it was loosened from the soil near the surface, and dropped without being observed into the well.

A few years ago, workmen, in digging a well, in Hudson, brought up from a depth of about eighty feet in compact blue drift clay, a live frog, which they were sure they dug out at that depth. One of its legs had been cut off apparently by a mowing machine. Its life in the well was evidently measured by a part of the time between cessation of work in the evening, and the commencement of work in the morning.



Quite an artistically carved head in sandstone was dug up while opening the Sandy & Beaver Canal, in Columbiana County, which now belongs to J. F. Benner & Son, of New Lisbon, a cut of which is here given ; and a carving in sandstone picked up on the surface in Norristown, Carroll County, now in the cabinet of G. G. B. Greenwood, of Minerva, shows characteristic Indian features. These are illustrated in a pamphlet published by Col. Charles Whittlesey.

Many other carvings of images and faces have been collected, but none of them have any special significance, except a single specimen to be hereafter described. They do not exhibit that degree of artistic skill which would make them reliable evidence of race or tribal characteristics. They show how much work, with poor tools, was expended in the production of images, having no form or comeliness to make them worthy of admiration, but which were doubtless esteemed by the artists and their contemporaries as remarkable triumphs of artistic skill.

Mr. Peter Neff, of Gambier, has a mask-like face, carved in sandstone, which was plowed up in a field in Jackson township, Coshocton County, in 1851. It measures $3\frac{1}{4}$x$2\frac{3}{4}$ inches, not including two projections or blunt horns rising on each side of the top of the head. It is of especial interest from its close resemblance to similar faces worn on the breast of priest-like personages represented on Central American sculptures, of which illustrations are given by Bancroft in his "Native Races of the Pacific States." In his illustrations these face-ornaments are in one instance suspended by a string of very large beads, apparently quite similar to the large metamorphic slate beads found in this State, and previously described.

The projections from the top of Mr. Neff's specimen were plainly intended for purposes of suspension, and if suspended from a string of these large Ohio beads the whole would be a complete repetition of the ornament figured by Bancroft. A precisely similar face, except having only one projection from the top of the head, has been found in Missouri. A cut 3-5 size of Mr. Neff's specimen is here inserted.

FIRE HEARTHS.

In all parts of the State are found hearths formed of rough stones, laid snugly side by side, and generally several feet square. They are usually in groups, and show the long-continued action of fire. They are the sites of ancient village communities and encampments, and the abundance of relics about them indicate long-continued occupancy. Along the banks of the Ohio, above Portsmouth, Mr. Thomas W. Kinney has found such hearths, disclosed by the encroachment of the river, which are now six and eight feet beneath the surface; and Col. Whittlesey reports such hearths fifteen feet below the surface, indicating very great antiquity.

PICTURE-WRITING AND INSCRIBED ROCKS.

Col. Charles Whittlesey, of Cleveland, Ohio, has given more attention to the study of these remains than any other man in the State, and by his permission the following extracts from a chapter on ancient rock sculptures, prepared by him for the Centennial report, are here copied :

"In many places within the State rude effigies of man and animals have been observed, chiseled or picked into the natural surface of the rocks. They are most numerous in the eastern half of the State, where the grits of the coal series furnish large blocks or perpendicular faces of sandrock, which are easily cut, and which are, at the same time, imperishable. These surfaces are never prepared for inscriptions by artificial smoothing. The figures are sunk into the stone by some sharp-pointed tool like a pick, which has left the impression of its point similar to the rough-hewn stone of our masonry. This tool has not been found in the form of a pick, and was probably only a small angular stone, held in the hand and used as a chipper until the points and angles were worn off. Many artificial stones of flint, trap, and greenstone are seen in all large collections, from two to four inches in diameter, evidently worn into a partially rounded form by blows that have chipped off the projecting corners. Some are quite thoroughly rounded and even polished like the spherical balls. Such balls, sometimes called "sling-stones" or "slung-shots," could, in their rough condition, have answered the purpose of a picking tool, at the same time being itself brought into shape for a weapon or an ornament. Such contrivances, to save labor by accomplishing two purposes at once, are visible in other fabrications of the early races. Rude picks of the early races in Europe have been found, which were made by inserting a pointed stone in the prong of a deer's horn. Such an implement seems to be required to finish some of the channeling observed on some of our rocks, and may yet be found. How ancient the intaglios are can not yet be determined, but there is one instance at Independence, Cuyahoga County, where soil had accumulated over them to a depth of one to one and a half feet, on which were growing trees of the usual size in that region. The Western Reserve Historical Society has procured several tracings of them on muslin, of the size of nature, which were forwarded for exhibition.

"It has been found that sketches, even by good artists, are so deficient in accuracy as to be of little value. By clearing out the channels sunk in the rock, painting them heavily, and pressing a sheet of muslin into the freshly-painted depressions, an exact outline is obtained. This is photographed to the size intended for engraving, and thus the reduced copy remains an accurate *fac simile* of the original. Those which are mentioned below were traced and reduced in this manner.

"Track Rocks Near Barnesville, Belmont County, Ohio.

"In 1857 or 1858, Mr. Thomas Kite, of Cincinnati, examined the 'track rocks' near Barnesville, and took casts of some of the sculptured figures. Jas. W. Ward, Esq., of the same city, soon afterward made a detailed sketch, which he caused to be engraved and circulated. In 1869 Dr. J. Salisbury and myself made a visit to the place with a view to get a tracing on cloth, but were compelled to give it up for want of time. An arrangement was made with Dr. Jas. W. Walton, of Barnesville, to take tracing for this Society, which, however, was not received until the fall of 1871. The discussion which took place at the Indianapolis meeting of the American Association, in August, 1871, was based upon Mr. Ward's sketch, which had been made with much care, he being not only an artist but an antiquarian.

"This was reproduced, with a detailed description, by Mr. Ward, in the first number of the *American Anthropological Journal*, issued in January, 1872, at New York. When Dr. Walton's *fac simile* tracings, size of nature, were received, it was evident that notwithstanding the care exercised by Mr. Ward, there were important omissions, which destroyed the value of the discussions at Indianapolis, based upon his sketch. It is now conceded that copies of such sculptures must be made by casts, squeezes, or tracings, in order to be reliable. In the different representations that have appeared

of the 'Dighton Rock,' the supposed Grave Creek stone, the 'Big Indian Rock,' on the Susquehanna, and the 'Independence Stone,' of this county, something material is omitted, or palpably distorted. Mere sketches are of little or no ethnological value. I think the mode adopted by us leaves little room for errors, either in size or proportion, but there may be in the manner or aspect that belongs to every object, and which is known by the plain but forcible expression, 'life-like.' The rock was first thoroughly cleaned of the moss and dirt, as Dr. Walton explains in his letter accompanying the tracings. All of the artificial depressions were then filled with paint, and a sheet of muslin, covering the entire block, pressed into the sculptured figures. This coarse grit is so nearly imperishable that whatever distinct markings were originally cut upon it are doubtless there now and are not perceptibly injured by exposure. These groups present the first instance among the rock inscriptions of Ohio, where it can be said that we now have complete and entire, in their primitive condition, all the figures that are capable of being traced, not mutilated by man, or obliterated by the elements. Dr. Walton's description will now be both intelligible and interesting:

"'The copies I send you exhibit every definite figure those rocks contain, and indeed many more than will be noticed by a casual observer of them.

"'Some of them were discovered only after removing the lichens of ages; others after glancing the eye along the surface of the rocks from every point of the compass; and others after the sun had declined low in the west, casting dim shadows over depressions too shallow to be seen before. And there are many indistinct impressions on each of the rocks that could not be copied—these resemble the indefinite remains of innumerable tracks of men and animals, overlying each other, as may be seen on our highways, after a rain has effaced almost every outline.

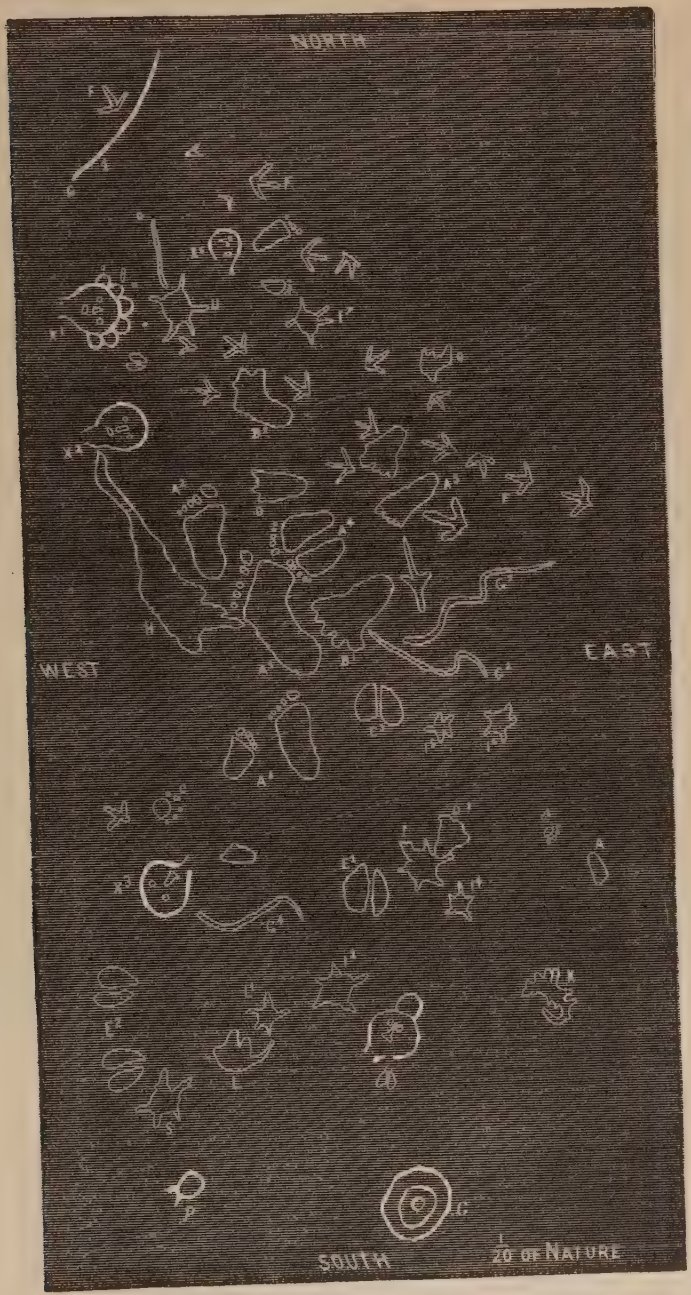
"'Upon examining the print of the smaller rock it will appear that two men, each accompanied by a dog, seem to have passed over it in opposite directions. This idea has never, so far as I have learned, occurred to any person who has heretofore examined the rocks; the figures being regarded as distinct and disconnected, as they appear on the larger stone. I did not catch the idea until after I had painted all the distinct figures on this stone, and had impressed the cloth on the paint, when, upon removing and examining the

print, I found, say, first a right foot print, then a left one at its appropriate position, then a right foot where it should be, but the succeeding left one wanting.

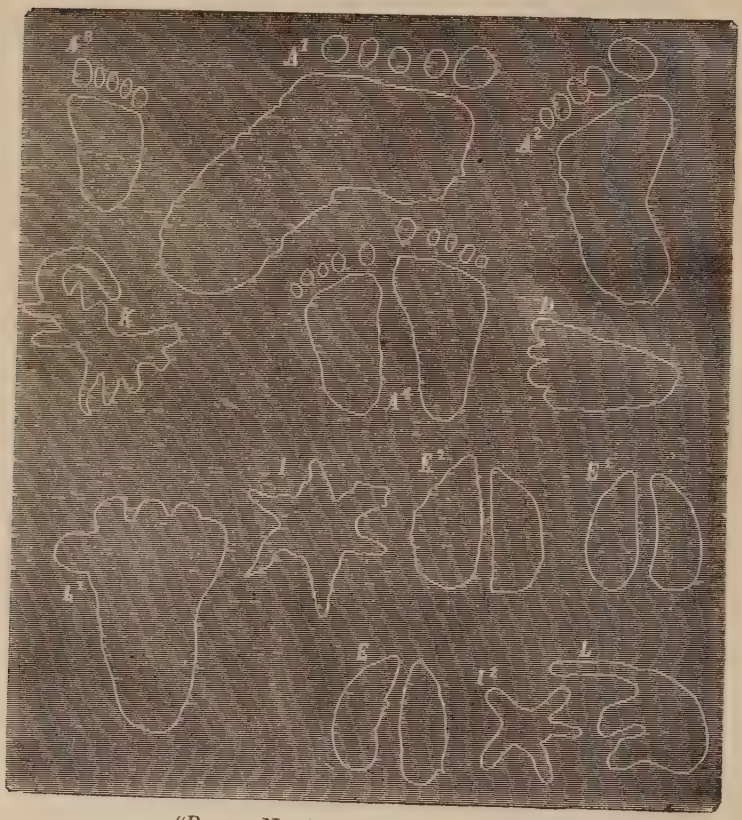
"'This set me on a more careful examination of the motley indentations covering this part of the rock for traces of the lost feet, and it was not a great while before I found sufficient remains of just what was wanting, and at their appropriate places, but in exceedingly indistinct impressions.

"'The rude cuts of human faces, part of the human feet, the rings, stars, serpents, and some others are evidently works of art, as in the best of them the marks of the engraving instrument are to be seen; and it is barely possible that the residue of those figures were carved by the hands of men; however, I must say that the works of the best sculptors do not surpass the equisite finish of most of the tracks on those rocks.' "

"PLATE I.—BARNESVILLE TRACK ROCKS No. 1—1-20TH OF NATURE.



"Plate II.—Enlarged Figures of No. 1—1-7th of Nature.



"Block No. 1.—1-20th of Nature.

"In all cases, whether single or in groups, the relative dimensions of the figures are preserved. The surface of this block is eight by eleven feet. An error has crept into the engraving of this group, in regard to the east and west sides, which should be reversed: for east read west, and for west, east.

"a^1—human foot, greatest length 15 inches.

"a^2—human foot, greatest length 10 inches.

"a^6—human foot, greatest length 3½ inches.

"*b*—Nos. 1 and 2, awparently the fore foot of a bear, 5½ to 9 inches long.

"*c*—hind foot of a wolf or dog, breadth across the toes 3½ inches.

"c^1—hind foot of a wolf or dog, breadth across the toes 2½ inches.

"*d*—probably the hind foot of a bear, length 5½ inches.

"*e*—Nos. 1 to 5, buffalo tracks, length 2 to 5 inches.

"*f*—Nos. 1 to 13, so called 'bird tracks,' 3½ to 5 inches in length.

"*g*—Nos. 1 to 4, snakes, or portions of them, 13 to 21 inches in length.

"*h*—effigy of a bird, greatest length 22 inches.

"*i*—Nos. 1 to 9 resembles the spread out skin of an animal, 3 to 8 inches greatest diameter.

"*k*—not recognized as an animal form, length 6 inches.

"*l*—an imperfect figure.

"*n*—probably a variation of *i*, with a groove that may have been part of the figure.

"*o*—apparently incomplete.

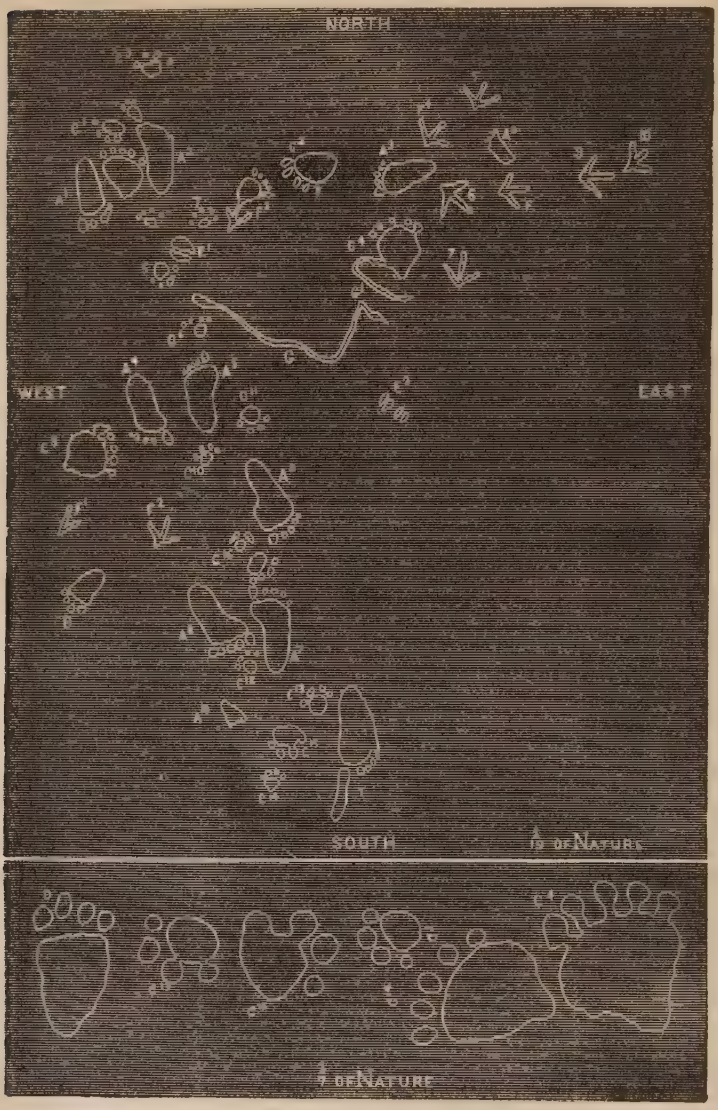
"*p*—greatest length 6 inches.

"*q*—spirit circle, diameter 7½ inches.

"*x*—Nos. 1 to 3, outlines of the human face, breadth 3½ to 6 inches.

"There is a rock in Georgia, described by the antiquarian, C. C. Jones, of that State, on which are a number of circles like 'g,' a sign used by the Chippeways to represent a spirit.

"Plate III.—Barnesville Track Rock No. 2—1-19 and 1-7 of Nature.



"Block No. 2, 7 feet by 8, Lying 20 Feet South of No. 1.

"*a*—Nos. 2, 6, 7, and 8, human foot 9 inches long.

"a^{10}—human foot 3½ inches long.

"*c*—Nos. 1 and 10 to 16, hind foot of a dog or wolf, 2½ to 4 inches broad across the toes.

"*c*—Nos. 2, 3, 4, and 5, five toes, greatest breadth 4 to 5½ inches across the toes (the animal not recognized.)

"*d*—hind foot of a bear.

"e^1—buffalo track, 3 inches long.

"e^2—buffalo track 1½ inches long, a pair.

"*f*—so-called "bird tracks," 3½ to 5 inches long.

"*g*—snake, 21 inches long; g^1—part of same.

"*i*—groove, 5 inches long.

"We have here as good representations as it is possible to procure of an entire rock inscription. The copy of the Independence stone embraces only a fragment of the original, not exceeding one-fourth of the surface once covered with sculptured effigies. If the figures had a general relation to each other, it could not be determined by an inspection of only a portion of them.

"The inscriptions near Newark, in Licking County, Ohio, originally covered a vertical face of conglomerate rock, fifty or sixty feet in length, by six and eight feet in height. This rock is soft, and, therefore, the figures are easily erased. As the place was partially sheltered from the weather by overhangs, the injury done to them by exposure was not much; but from the earliest settlement of the country, about the year 1800, it became a place where white men sought to immortalize themselves by cutting their names across the old inscriptions. When Dr. Salisbury, in 1864, undertook to rescue what remained of them, it was only possible to trace the ancient figures over a space about seven feet by thirteen, and here many of them were restored with difficulty, by great patience and labor. His copy is in the hands of the American Antiquarian Society, and is in the course of publication. It is, therefore, like the Independence stone, only a fragment.

"On the rock-faces and detached sandstone blocks of the banks of the Ohio River, there are numerous groups of intaglios, but in them the style is quite different from those to which I have referred, and which are located in the interior. Those on the Ohio River resemble the symbolical records of the North American Indians, such as the Kelley Island stone, described in Schoolcraft by Captain Eastman, the Dighton Rock, the Big Indian Rock of the Susquehanna, and the 'God Rock' of the Alleghany River. In those the supposed bird track is generally wanting. The large sculptured rock, near Wellsville, which is only visible at low water of the Ohio, has among the figures one that is prominent on the Barnesville stones. This is the fore foot of the bear, with the outside toe distorted and set outward at right angles.

PLATE IV.—INDEPENDENCE SLAB, 4½ BY 6 FEET, NOW IN THE WEST WALL OF THE CHURCH—1-14TH OF NATURE.

"AAA—Irregular patches slightly worked with a pick.

"THE INDEPENDENCE STONE.

"Great care has been taken to obtain a correct sketch of what remains of this inscription. A very rude drawing of it was published in Schoolcraft's great work upon the Indian tribes, in 1854. He probably regarded it as the work of the red man. In 1869, Dr. J. H. Salisbury, who has long been engaged in the investigation of rock inscriptions at the West, in company with Dr. Lewis, of the Asylum at Newburgh, made a copy, by means of full and exact measurements.

"As no sketch is of equal authenticity with a photograph, Mr. Thos. T. Sweeney, an artist at Cleveland, went to Independence, and took a copy with his instrument. The light on that day was not favorable, but the outlines of all the artificial work upon the stone were thus secured with exactness. For the purposes of the engraver, the figures were filled in by Dr. Salisbury from his sketch. Without expressing an opinion as to the authors of these inscriptions, I present, in connection with the engraving, the details furnished by Dr. Salisbury:

"'Mr. W. F. Bushnell, who resides at Independence, and M. B. Wood, of Cleveland, state that these markings were discovered about 1853, while stripping the earth from the surface of a quarry on the north brow of the hill on which the village of Independence stands. Here the rocks projected in the form of a perpendicular cliff, from twenty to forty feet in height. On the top of this cliff, and near its edge, the markings were discovered. The soil over the markings was from five to eight inches in depth, and was black, having been formed from decaying vegetation. A tree was growing directly over the markings, that was one foot or more in diameter. Within a few feet of the spot there was an oak tree over four feet in diameter. This tree, some years previous to the discovery of the sculptured rock, had fallen nearly across the markings, and, in 1853, was much decayed. Besides the markings represented in the engraving, there were others adjacent, belonging to the same group, which had been destroyed by the quarrymen before Messrs. Bushnell and Wood were aware of it. Among the markings destroyed, were the outline figures of a man and woman, very well executed. There were also the representations of a wolf's foot, and figures of the feet of other animals.

"'At the time of the discovery the stone church at Independence was being built, and, at the suggestion of Deacon Bushnell and others, all the markings not previously destroyed were carefully cut out, and the block placed in the

rear wall of the church, about eight feet above the ground. It was prudently placed at this height to prevent its being defaced, for they are not very distinct.

"'In company with Dr. Lewis, Superintendent of the Northern Ohio Lunatic Asylum, I visited the locality on the 5th day of June, 1869, and made careful drawings of all the markings visible on the block in the rear wall of the church. These, with accurate measurements, are represented here, made more perfect by the use of Mr. Sweeney's photography.

"'The rock here described only contains a portion of the inscription; the balance was destroyed in quarrying. The markings on the portion of the rock preserved consist of the human foot, clothed with something like a moccasin or stocking; of the naked foot; of the open hand; of round markings, one in front of the great toe of each representation of the clothed foot; the figure of a serpent; and peculiar character w, which might be taken for rude representation of a crab or crawfish, but which bears a closer resemblance to an old-fashioned spear head, used in capturing fish.

"'The clothed feet are of five different sizes. There are eighteen impressions of this kind, arranged in nine pairs. Of the largest size there are five pairs—*a*, *c*, *g*, *l*, *m*; of the next size smaller there is only one pair—*o*; of the next smaller size one pair—*g*; of the next smaller size one pair—*e*; of the next smaller size one pair. Of the naked foot there is only a single figure, which is rudely carved, and which is much longer than the clothed representations. There are two figures of the open hand—one with a large palm and short fingers, the other smaller, with fingers long and slender.

"'The sculptures have all been made with a sharp-pointed instrument, by the process of pecking, and sunk in throughout instead of being mere outlines. The cuttings are from one-eighth to half an inch deep. The two hands are sculptured the deepest. In the illustrations I have endeavored to give an idea of the markings left by the tool used, though these are less evident than the representations.

"'The length of the largest feet in figures *a*, *c*, *g*, *l*, *m*, from the extremity of the great toe to the heel, is six and three-fourths inches, and the width, at the widest place, two and three-fourths inches. The length of the next in size, *o*, is five inches, and the width two and one-eighth inches; and of *g*, five inches by two inches. Length of next smaller size, *e*, three and a half inches, and width one and three-fourths inches, and three and three-fourths inches by one and a half inches. The length of the naked foot, *s*, is nine inches, and greatest width, four and three-fourths inches. The great toe is one inch long, the second toe one and one-fourth inches long, the third toe one and a half inches long, the fourth toe one and a fourth inches long, and the little toe one inch long.

"'In the large hand, *t*, the palm is five and a half inches long and three and a half inches wide. The length of the thumb is one and a half inches, the index finger one and three-fourths inches, the middle finger two inches, the

ring finger one and three-fourths inches, and the little finger one and a half inches. In the other hand, *u*, the palm is three and a half inches long and two and a half inches wide. The length of the thumb is two and one-fourth inches, the index finger two and a half inches, the middle finger two and three-fourths inches, the ring finger two and a fourth inches, and the little finger two inches.

"'The diameter of the circular markings, invariably found in front of the clothed feet, are as follows: *b*, one and one-eighth inches; *d*, one and three-fourths inches; *f*, three-fourths inch; *h*, one inch; *k*, half inch; *n*, one and a half inches; *p*, one and one-fourth inches; *q*, one inch.

"'The diameter of the serpent's head is two and three-fourths inches; length of body, ninety-four inches, making the entire length of the figure about eight feet.

"'In the sculptured figure, w, the measurements are omitted.

"'It is evident this slab does not contain the entire description. The tracks, *l*, are only partially present, while it is very probable that more tracks occurred in the direction *a*, *b*, arranged in a line as those are from *c* to *l*, where there are ten tracks and eight round characters, and which are probably not all that were originally in this line previous to the stones being quarried. The round markings in front of the clothed tracks may have been intended to represent the track of dogs or wolves, but at present they are so smoothed by time that it is impossible to make out anything but simple irregular circular depressions.

"'The rock on which the inscription occurs is the grindstone grits of the Ohio Reports, an extensive stratum in Northern Ohio, about one hundred and fifty feet below the conglomerate. It is almost pure silex, and possesses the property of resisting atmospheric changes to a remarkable degree. Boulders and projecting portions of the formation, from which this block was obtained, that have been exposed to the weather for ages, preserve perfectly their sharp, angular projections. As a building stone it is superior on account of its extreme durability. This durability of the rock, and the fact that these markings were covered with earth, explains why they have been so finely preserved.

"'The markings *a*, *c*, *e*, *g*, *l*, *m*, *o*, and *q*, have been supposed by some to represent the tracks of the buffalo. After carefully measuring them, however, I have come to the conclusion that they were designed to represent tracks of the clothed human foot, and as such have described them.

"'The so-called bird tracks, which are few and faint on this slab, are numerous and bold on most of the rock inscriptions of Ohio.'"

It is difficult to determine whether any of these sculptures can be properly called picture writings. There is no regular order of arrangement; no systematic grouping of characters pointing to a serial connection between them. In a specimen

of modern Indian picture-writing, purporting to be the life of a Chippeway, and deposited in the Museum of the Natural Science Association, of Detroit, the characters are arranged in regular order, there being two series on each side of a wooden tablet, the feet of the figures of men and animals directed toward the edge of the tablet, clearly indicating a methodical arrangement, and that the record is to be read from one end to the other, along one series of characters, when the other edge of the tablet was to be turned upward and the reading continued to the place of beginning. It is not apparent whether the reading should be from right to left or the reverse, nor where the reading should begin. It is certainly a much more perfect specimen of picture-writing than any of the rock inscriptions in Ohio, and all of the latter are probably the work of modern Indians.

EARTH WORKS.

The ancient earth works of Ohio, in their variety, magnitude and extent, excel those of all the other States. Single mounds of greater size are found elsewhere, but no other State has such a variety of these works, or such numbers of them as Ohio. When it is remembered that the builders of these works had no beasts of burden, or draught, no metal tools of a size or character to be of any use in their construction; that all the material must have been laboriously carried to its place in baskets, it will be obvious that the real labor expended upon some of them was not much, if any, less than that expended upon the largest pyramid of Egypt. Such works could be constructed only by a people who had a compact, civil organization, with a central authority which could control the labor of the masses, and with dominant civil or religious ideas which would induce the masses to submit to long-continued labor. The more extensive works peculiar to the State, indicate large, fixed communities, which involves the practice of agriculture and habits of life very different from that of the hunting tribes, roaming over the State, upon its first occupancy by the whites.

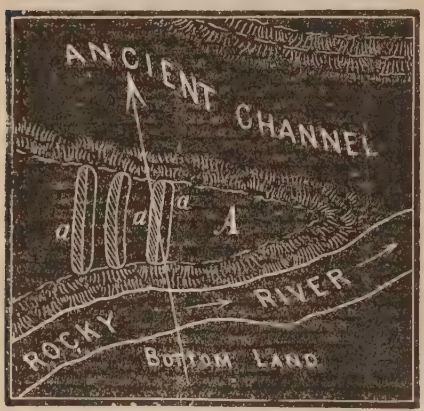
The most of these works are confined to the valleys of the streams where there is land specially adapted to the cultivation of maize or Indian corn, which was the basis of pre-Columbian American agriculture. They are much more abundant in the northern and southern than in the central parts of the State, a fact which might be easily explained from the small extent of the alluvial valley, on the table and. Still there is a marked difference in the character of those in the northern and southern regions. The former have more the appearance of defense works, both in their location and mode of construction. They ordinarily occupy elevated spurs, projecting from the table land into the valleys, overlooking extensive alluvial plains—often where erosion has left these spurs with a narrow connection with the table land, and a wider expanse of surface on the part projecting into the valley. In such cases the works consist of one, two, or three ditches and embankments across the neck, plainly intended to protect the spur against aggression from the table land. The enclosed surface often shows evidence of having been leveled off, the material removed so deposited as to increase the angle of the slope rising from the valley; and in some cases the location of an old foot-path leading from the summit into the valley can be clearly traced. The enclosed surface is generally filled with pit-holes and shows evidence of long occupancy. The valley of the Cuyahoga is lined with such works, which have been figured and described by Col. Whittlesey. Typical forms of these works are to be seen at the junction of Furnace Run with the Cuyahoga, in Summit County, and at the junction of Payne's Creek with Grand River, in Lake County. These protecting walls and ditches take different shapes, determined by the form of the surface to be protected. Two in Northampton township form complete enclosures with the exception of a single gateway in each opening toward the alluvial bottom land to which doubtless a foot-path originally led. Were these purely military works, or such defences as pertained to the ordinary life of their builders?

These old agriculturists had three enemies against whom they were compelled to contend: the extension of the forests, the intrusions of wild beasts, and the aggressions of more war-like hunting tribes. The extension of the forests is mentioned because it may have been one of the most efficient causes in the final expulsion of these people. Many attempts have been made to find causes for the existence of the treeless prairies of the West. A more natural inquiry would be, how came the other sections to be covered with forests? An herbacious vegetation doubtless preceded the forests and has been slowly restricted by the growth of the latter. In the Southern States extensive regions which sustained only an herbacious vegetation when first explored by the whites, are now covered with trees. Early agriculture attained its highest perfection in regions too arid for forest growth, where facilities were afforded for the artificial irrigation of the cultivated land, and was practically restricted to treeless regions until better cutting tools than our mound builders possessed enabled the argriculturists to successfully contend with forest growth.

These alluvial plains, not long ago covered with water, would be the last to be encroached upon by the forest, and were very probably treeless when first subjected to tillage. Land could not be cleared of forests, and its intrusion could with difficulty be resisted with such tools as have been described above. Crowded out by any causes from these regions, they could not transfer their agricultural operations to the treeless plains of the West, where the rank growth of grass would present so formidable obstacles and where countless herds of buffalo roamed. Certainly they sought these alluvial valleys, poorly adapted to the growth of grass, admirably adapted to the growth of Indian corn; the fortified adjacent bluffs, so selected as to command a view of their cultivated fields below, from whence they could observe the intrusion of man or beast and make provision against the attacks of enemies from the table lands. The size of these enclosures seems to be related to the size of the arable land

in the adjacent valley, and hence to the size of the village communities that could be supported from them. It seems a reasonable inference that these enclosures were strongholds, for protection and observation, and designed to meet the normal wants of small communities of argriculturists, and that they were not erected to meet the exigencies of a campaign. The great number of them, and the small size of each, scattered along the bluffs of a single stream, like the Cuyahoga, would tend to confirm this conclusion.

FORT HILL, NEAR BEREA, CUYAHOGA CO.



A.—Enclosed space; *a. a. a.*—Embankments and ditches. Scale,200 ft.to the inch.

The wood-cut here introduced indicates the general character of these fortified spurs.

In the valley, and at a distance from these protected enclosures, are sometimes single mounds, which seem not to have been burial mounds raised to such an elevation merely as would give an extended view above the top of the growing corn.

Such an outlying mound may be seen in the Pymatuning Valley, in Wayne, Ashtabula County. In this whole northern region true burial mounds are rare, and those that have been observed are of small size.

In Copley, Summit County, is a fortified enclosure precisely similar to those known to be made by the more modern Indians, and which may probably be referred to them. A large circular elevation rises like an island in the center of a swamp, which, before the adjacent land was cleared, would be almost impassable. This was enclosed by a ditch and and wall, carried entirely around the elevation, making a secret and pretty secure retreat. It is known

that the New England Indians secreted in such places their wives and children when at war with the whites, and when discomfited in battle, often retreated to them, sometimes eluding pursuit, sometimes defending themselves there to the last extremity. It is not certain that they enclosed them with embankments of earth.

Island Fort—Lot 14, Copley, Summit County, O., Surveyed August 17, 1877.

Long diameter, 244 feet; short diameter, 196 feet. Scale, 200 feet to the inch; *d, d.*—Remains of a beaver dam.

On some of the highest hills of Richland and Knox Counties, are look-out or signal mounds, similar to those which may be traced from these places south to the Ohio River. In some of these places small mounds have been built, with much labor, of stones brought from the valleys below, and nearly all show the results of surface fires. Many of these, and perhaps all of them, may be the work of modern Indians, as it is well known that they were in the habit of telegraphing to scattered members of their tribes or allies by the smoke of fires kindled at such places.

Licking County seems to be the center of population of the old mound builders of the State, and in it are some of the most remarkable earth-works to be found in the United States. Mounds, some of them of large size, some of earth and some of stone, are scattered over the county, but so remarkable are the works near Newark, now in part occupied by the county agricultural society, that comparatively little attention has been given to the others. This collection of mounds, embankments, enclosures, etc., covers over one thousand acres, and by its extent and character indicates

that here was the metropolis of the mound builders. The general character of the most important of these works will be better understood by the cut given on another page.

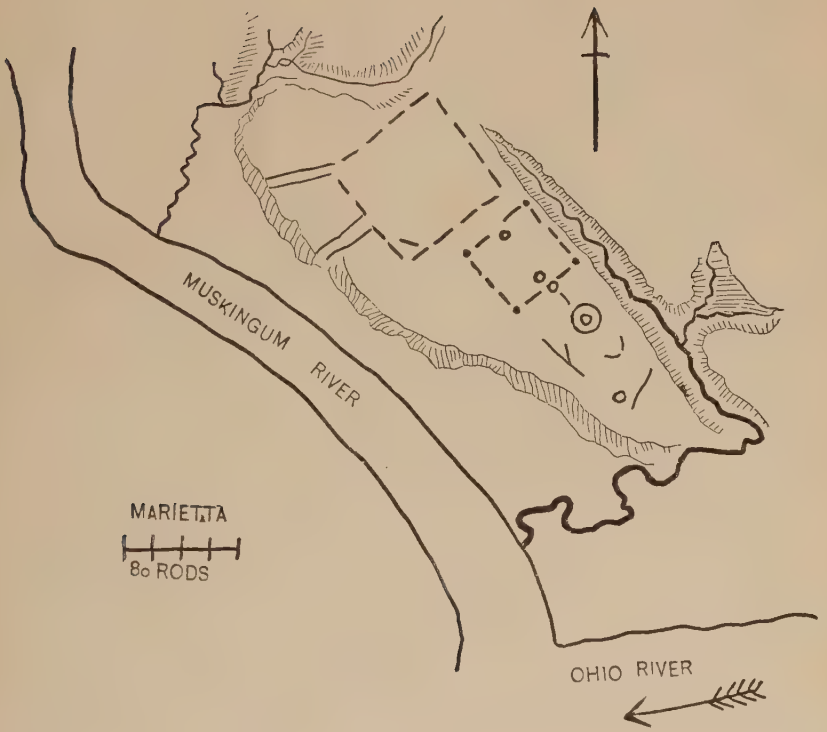
Mr. Smucker has known the works for more than fifty-five years, and hunted over them when covered with the primeval forests. He reports that they were covered with a mixed growth of walnut, sugar-maple, beech, oak, and wild cherry trees, some of which, when cut down, showed that they were over five hundred years old, which would indicate not less than from one thousand to fifteen hundred years since the commencement of the intrusion of the forests. It is believed that General Harrison first called attention to the fact, in regard to similar works, that a mixed forest indicated a forest growth of at least two or three generations of trees. A new natural forest is almost if not quite uniformly composed of one variety only, and the change to a variety of species is made very slowly. But was this ground ever occupied by forests until the abandonment of these works? Their erection with mound builders' tools, if it involved the clearing of a forest as a preliminary work, is so nearly impossible that we can not imagine it would be ever undertaken. It involved not only the clearing of these lands of the forest, but also the neighboring lands which were to be subjected to tillage. It is with the utmost difficulty, in moist and tropical climates, that men armed with the best of steel tools make a successful battle with the forests. It is much more reasonable to suppose that these works were originally located in a treeless region, and the works evidently of the same age scattered over the county indicate that this treeless region was of large extent, covering probably most of the alluvial valley. The inference would follow that the abandonment of the region marked the time when the slow intrusion of the forests reduced the amount of tillable land below the necessities of the community; the time since their abandonment marks the whole period of forest growth on the alluvial bottoms. If the question is asked, how long is this period? the only answer that can be

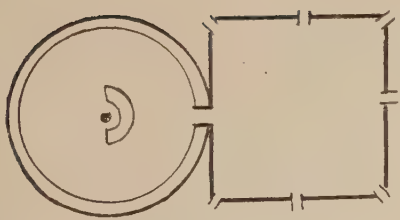
EARTH WORKS NEWARK OHIO

given is that in the term as applied to human history, the time was long; how long, no one can tell.

The most prominent features of these works consist of an octagonal enclosure embracing 50 acres; a square enclosure of 20 acres; a circle of 30 acres, and a smaller circle of 20 acres. A number of covert ways extended from these enclosures, and various mounds, circles and crescentic embankments are connected with them. These walls still rise in places to the height of 30 feet. At the center of the largest circular enclosure is a low mound which Mr. Smucker regards as intended to represent an eagle, with extended wings, measuring from tip to tip of the wings 240 feet, and from head to tail 210 feet. The largest circular enclosure is reported by Mr. Smucker to have an opening about 100 feet wide, and the door-ways in all are much too wide to admit of the idea that any of them are intended for forts. But for what were they designed? A cut of the works at Marietta and of those at Circleville are given for comparison, and to bring out the typical character of this class of earthworks.

The typical characteristics are circular and square, or rectilinear enclosures, the circle with one broad gateway; the square with many gateways, the two either closely connected, as in the Circleville works, or by long covert ways, as in the Newark works. The absence of the circular enclosure, as at Marietta, indicates that it is an adjunct to the other form of enclosure, and may be dispensed with. The presence of something like an altar or symbolic mound in the centre of the circle is also significant. The large number of passage ways into the rectilinear enclosures show that the dominant idea in making these embankments was not to secure a protected enclosure. Yet the protecting of most of these gateways, or breaks in the wall, by mounds, seems to indicate a use of the whole for protecting the interior. The difference in the numbers of the segments of the rectilinear walls should also be noted. In the Circleville enclosure, 8; in the Newark, in one case, 8; in another, 6; in that at Marietta, in


MUSKINGUM RIVER
MARIETTA
80 RODS
OHIO RIVER


CIRCLEVILLE

one case,16; in the other,10. Both at Newark and at Marietta there are isolated segments of just such embankments forming no part of an enclosure, but which could be easily imagined to be the beginning of an enclosure.

When Vol. IV. of "Contributions to North American Ethnology," by Lewis H. Morgan, was published, his conclusions, which he advanced, however, as a hypothesis, as simply a possible explanation of the use of these embankments, was not very generally accepted. It must be conceded, however, that he undertook the only line of investigation which could lead to correct conclusions. If we can learn the peculiarities of the social life of the mound builders, we may hope to learn the significance of their remains. The communal life of so many of the American races; the association of so many families in the same dwelling,or connected series of dwellings, which Mr. Morgan shows was characteristic of tribes most nearly allied in other characteristics with the mound builders, makes it a reasonable conclusion that this was a characteristic of their social life, and the theory may well be accepted, as a provisional one, that these segments of embankments of the rectilinear enclosures were the foundations of residences for closely related families of large tribal villages. The enclosures they formed may have contained the store houses of their common supplies, opening also into the circular enclosure which, the central altar-like mound contained in it, suggests was appropriated to religious or ceremonial rites. The single wide opening into these circular enclosures was evidently adapted to the easy ingress and egress of large masses of men. It would follow that they practiced that form of socialism, or communism, which many modern reformers are advocating, which is characteristic of many savage tribes and is always abandoned before any great advance is made in civilization. A clearly defined distinction, universally admitted, between the *tuum* and the *meum* is essential to that personal effort which results in civilization.

The apparent use of the circle for the sacred enclosure confirms the above conclusions, as the circle is the primitive form of building. Our children build circular snow forts, and the birds and beavers build in a circle, because this is the natural form, and most easily made—a form always retained by savages until they learn to build with timber, cut into regular lengths, or with stone. The circle, long used as a sacred enclosure and consecrated by custom, will be retained by a natural conservatism for religious uses long after rectilinear buildings are constructed for common uses.

The engineering skill required for the construction of these works is generally over-estimated. To the eye many of them appear to be perfectly symmetrical. But do we know that they are? They have suffered much from erosion, and it is in every case now impossible to define what was originally the central lines of the embankments or the exact corners of rectilinear enclosures. After all the careful measurements, we do not know the exact dimensions of the base of the great pyramid of Egypt, or whether it is an exact square; the preponderance of evidence being that it is not. No such care has been given to the measurements of any of these enclosures, and it is not proved that any of them are exact geometrical figures. A measuring rod and an instrument for laying down a right angle would suffice for the planing of all of them without a knowledge of any of the principles of geometry.

Associated with these enclosures are many forms of mounds which are also found isolated in various parts of the State, and very abundantly in Licking County. Those that are truncated at the top are usually regarded as temple mounds, and are comparatively rare in Ohio. Explorations in other States show that some of them are true burial mounds. The most noted mound of this character in the United States is located on the rich alluvial land bordering the lower Mississippi, and near the mouth of Cahokia Creek, from which it takes its name. It is ninety feet high, with a

base seven hundred feet long, and five hundred feet wide, the level surface at the top measuring four hundred and fifty by two hundred feet, and its solid contents estimated at twenty millions of cubic feet.

Burial mounds are very abundant in this State, of a conical form, generally with a circular, but sometimes with an oval base, usually built of earth, but sometimes of stone. No better idea of the general character of these mounds can be given than is afforded by the following extracts from a paper read before the Connecticut Academy of Arts and Sciences, February 21, 1866, by that careful observer, O. C. Marsh, F. G. S. He says:

"The mound selected for examination was about two and a half miles south of Newark, on the farm of Mr. Thomas Taylor, and was known in the neighborhood as the 'Taylor Mound.' It was conical in form, about ten feet in height, and eighty in diameter at the base, these being about the average dimensions of the burial mounds in that vicinity. It was situated on the summit of a ridge, in the midst of a stately forest. * * * The mound stood quite alone, nearly half a mile from its nearest neighbor, and about three miles from the large earthworks already mentioned. * * *

"An excavation about eight feet in diameter was first made from the apex of the mound, and after the surface soil was removed, the earth was found to be remarkably compact, probably owing to its having been firmly trodden down when deposited. This earth was a light loam, quite different from the soil of the ridge itself, and its peculiar mottled appearance indicated that it had been brought to the spot, in small quantities. In excavating the first five feet, which was a slow and very laborious undertaking, nothing worthy of notice was observed except some traces of ashes, and pieces of charcoal and flint, scattered about at various depths. At five and a half feet below the surface, where the earth became less difficult to remove, a broken stone pipe was found which had evidently been long in use. It was

made of a very soft limestone, containing fragments of small fossil shells, apparently cretaceous species. No rock of precisely this kind is known to exist in Ohio. Pieces of a tube of the same material, and about an inch in diameter, were found near the pipe. The cavity was about two-thirds of an inch in diameter, and had been bored with great regularity. Similar tubes have occasionally been found in mounds, but their use is not definitely known.

"About seven feet from the top of the mound a thin white layer was observed, which extended over a horizontal surface of several square yards. Near the centre of this space, and directly under the apex of the mound, a string of more than one hundred beads of native copper was found, and with it a few small bones of a child about three years of age. The beads were strung on a twisted cord of coarse vegetable fibre, apparently the inner bark of a tree, and this had been preserved by the salts of the copper, the antiseptic properties of which are well known. The position of the beads showed clearly that they had been wound two or three times around the neck of the child; and the bones themselves (the neural arches of the cervical vertebræ, a clavicle and a first rib) were precisely those which the beads would naturally come in contact with when decomposition of the body ensued. The remains evidently owe their preservation to this fact, as they are all colored with carbonate of copper, and the other parts of the skeleton have entirely decayed. The position the body had occupied, however, was still clearly indicated by the darker color of the earth. The beads were about one-fourth of an inch long and one-third in diameter, and no little skill had been displayed in their construction. They were evidently made without the aid of fire, by hammering the metal in its original state; but the joints were so neatly fitted that in most cases it was very difficult to detect them. On the same cord, and arranged at regular intervals, were five shell beads of the same diameter, but about twice as long as those of copper. All

had apparently been well polished, and the necklace when worn must have formed a tasteful and striking ornament.

"About a foot below the remains just described, and a little east of the centre of the mound, were two adult human skeletons, lying one above the other, and remarkably well preserved. The interment had evidently been performed with great care. The heads were toward the east, slightly higher than the feet, and the arms were carefully composed at the sides. A white stratum, similar in every respect to the one already mentioned, was here very distinct, and extended horizontally over a space of five or six yards, in the centre of which the remains had been laid. The earth separated readily through this stratum, and an examination of the exposed surfaces showed that they were formed from two decayed layers of bark, on one of which the body had been placed, and the other covered over them. The smooth sides of the bark had thus come together and the decomposition of the inner layers had produced the peculiar white substance, as a subsequent microscopic examination clearly indicated. (This white layer, which was thought by Squire and Davis to be the remains of matting, is a characteristic feature in burial mounds. It has only been found where the interments were unquestionably of mound builders.) Directly above these skeletons was a layer of reddish earth, apparently a mixture of ashes and burned clay, which covered a surface of about a square yard. Near the middle of this space was a small pile of charred human bones, the remains of a skeleton, which had been burned immediately over those just described. The fire had evidently been continued for some time, and then allowed to go out; when the fragments of bone and cinders that remained were scraped together, and covered with earth. All the bones were in small pieces, and most of them distorted by heat; but among them were found the lower extremity of a humerus and some fragments of a fibula, which showed them to be human, and indicated an adult rather below the medium size. The two skeletons found beneath these remains were well formed and of

opposite sex. The ossification of the bones indicated that the female was about thirty years of age, and the male somewhat older.

"It is not impossible that these were husband and wife, the latter put to death and buried above the remains of her consort; and the charred bones may have been those of a human sacrifice slain at the funeral ceremonies. Near these skeletons was a small quantity of reddish brown powder, which proved on examination to be hematite. It was probably used as a paint.

"On continuing our excavations about a foot lower, and somewhat more to the eastward, a second pile of charred human bones was found, resting on a layer of ashes, charcoal and burned clay. But one or two fragments of these remains could be identified as human, and these also indicated a small-sized adult. The incremation had apparently been performed in the same manner as in the previous instance. Immediately beneath the clay deposit, a third white layer was observed, quite similar to that just described. In this layer was a male skeleton, not in as good preservation as those already mentioned, although belonging to an individual considerably older. In this case, also, the head was toward the east, and the burial had been carefully performed. Near this skeleton about a pint of white chaff was found which appeared to belong to some of the native grasses. The form was still quite distinct, although nearly all the organic substance had disappeared. A few inches deeper, near the surface of the natural earth, several skeletons, of various ages, were met with, which had evidently been buried in a hurried manner. All were nearly or quite horizontal, but no layer of bark had been spread for their reception, and no care taken in regard to the arrangement of limbs. These skeletons were in a tolerable state of preservation, some parts being quite perfect. A tibia and fibula, with most of the corresponding bones of a foot, were found quite by themselves, and well preserved.

"Our excavations had now reached the original surface of the ridge, on which the mound was erected, and we were about to discontinue further researches, when the dark color of the earth at one point attracted attention, and an examination soon showed that a cist or grave had first been excavated in the soil before the mound itself was commenced. This grave was under the eastern part of the elevation, about four feet from the center. It consisted of a simple excavation in an east and west direction, about six feet long, three wide, and nearly two deep. In this grave were found parts of at least eight skeletons, which had evidently been thrown in carelessly—most of them soon after death, but one or two not until the bones had become detached and weathered. Some of the bones were very well preserved, and indicated individuals of various ages. Two infants, about a year and eighteen months old respectively, were each represented by a single os illium, and bones of several other small children were found. One skull, apparently that of a boy, about twelve years of age, was recovered in fragments, and this was the best preserved of any obtained in the mound. The skeleton of an aged woman of small stature was found resting on its side. It was bent together and lay across the grave, with its head toward the north. Some of the loose human bones, exhumed from the bottom of the grave, were evidently imperfect when thrown in. Among these was part of a large femur, which had been gnawed by some carniverous animal. The marks of the teeth were sharply defined, and corresponded to those made by a dog or wolf.

"Quite a number of implements of various kinds were found with the human remains in this grave. Near its eastern end, where the detached bones had been buried, were nine lance and arrow-heads, nearly all of the same form, and somewhat rudely made of flint and chert. * * * These weapons are of peculiar interest, as it appears they are the first that have been discovered in a sepulchral mound, although many such have been carefully examined. They

show that the custom—so common among the Indians of this country—of burying with the dead their implements of war or the chase, obtained occasionally, at least, among the mound builders. Not far from these weapons six small hand-axes were found, one of which was made of hematite, and the rest of compact greenstone or diorite, the material often used by the Indians for similar articles. Two of these corresponded closely in form with the stone hand-axe figured by Squire and Davis, as the only one then known from the mounds. With these axes were found a small hatchet of hematite, a flint chisel, and a peculiar flint instrument, apparently used for scraping wood.

"In the central part of the grave, near the aged female skeleton already alluded to, were a large number of bone implements, all exceedingly well preserved. Among these were five needles or bodkins, from three to six inches in length, neatly made from the metatarsal bones of the common deer, and also a spatula cut from an ulna and probably used for moulding pottery. With these were found about a dozen peculiar implements formed from the antlers of a deer and elk. They are cylindrical in form, from three to eight inches in length, and an inch to an inch and a half in diameter. Most of these had both ends somewhat rounded, and perfectly smooth, as if they had either been long in use, or carefully polished. It is possible these instruments were used for smoothing down the seams of skins or leather; they would at least be well adapted to such a purpose. A whistle made from a tooth of a young black bear, and several 'spoons,' cut out of the shells of river mussels, were also obtained from near the same spot.

"A vessel of coarse pottery was found near the western end of the grave, but unfortunately was broken in removing it. It was about five inches in its greatest diameter, six in height, and one-third of an inch in thickness. It was without ornament, and rudely made of clay containing some sand and powdered quartz. It was filled with soft, black earth,

the color being probably due to some animal or vegetable substance, which it contained when deposited in the grave. Fragments of a vase of similar material, but having the top ornamented, were found in another part of the mound. Neither of these vessels were superior in any respect to the pottery manufactured by the Indians.

"Near the bottom of the mound, and especially in the grave, were various animal bones, most of them in an excellent state of preservation. Many of them belonged to the common deer, and nearly all the hollow bones had been skillfully split open lengthwise—probably for the purpose of extracting the marrow—a common custom among rude nations. * * *

"The skeletons found in this mound were of medium size, somewhat smaller than the average of the Indians still living in this country. The bones were certainly not stouter than those of Indians of the same size, although this has been regarded as a characteristic of the remains of the mound builders. All the skulls in the mound were broken—in one instance, apparently before burial—and most of them so much decayed that no attempt was made to preserve them. Two, however, were recovered with the more important parts but little injured. Both were of small size, and showed the vertical occiput, prominent vertex and large interparietal diameter so characteristic of crania belonging to the American race. In other respects there was nothing of special interest in their conformation. With a single exception all the human teeth observed were perfectly sound. The teeth of all the adult specimens were much worn, those of aged individuals usually to a remarkable degree. The manner in which these were worn away is peculiarly interesting, as it indicates that the mound builders, like the ancient Egyptians, and the Danes of the stone age, did not, in eating, use their incisive teeth for cutting as modern nations do. This is evident from the fact that the worn incisors are all truncated in the same plane with the coronal surfaces of the molars,

showing that the upper front teeth infringe directly on the summits of those below, instead of lapping over them. This peculiarity may be seen in the teeth of Egyptian mummies, as was first pointed out by Cuvier. * * *

"One of the most remarkable features in the mound was the large number of skeletons it contained. With one or two exceptions none of the burial mounds, hitherto examined, have contained more than a single skeleton which unquestionably belonged to the mound builders, while in this instance parts of at least seventeen were exhumed. The number of small children represented among these remains is also worthy of notice, as it indicates, for this particular case, a rate of infant mortality (about thirty-three per cent.) which is much higher than some have supposed ever existed among such nations. Another point of special interest in this mound is the evidence it affords that the regular method of burial among the mound builders was sometimes omitted, and the remains interred in a hurried and careless manner. This was the case with eleven of the skeletons exhumed in the course of our explorations, a remarkable fact, which appears to be without a precedent in the experience of previous investigators. It should be mentioned in this connection that nearly all these remains were those of women and children. Their hurried and careless burial might seem to indicate a want of respect on the part of their surviving friends, were there not ample evidence to prove that reverence for the dead was a prominent characteristic of the mound builders. It is not unlikely that in this instance some unusual cause, such as pestilence, or war, may have made a hasty interment necessary. The various implements and remains of animals found with these skeletons also deserve notice, as they far exceed in number and variety any hitherto discovered in a single mound. They prove, moreover, that if in this instance the rites of regular burial were denied the deposited, their supposed future wants were amply provided for. The contents of one part of the cist, (which is itself a very unusual accompaniment of a mound)

appears to indicate that the remains of those who died at a distance from home, were collected for burial, sometimes long after death. The interesting discovery of weapons, which were found with these detached bones, would seem to imply, that in this case the remains and weapons of a hunter or warrior of distinction, recovered after long exposure, had been buried together.

"The last three interments in this mound were performed with great care, as already stated, and in strict accordance with the usual custom of the mound builders. The only point of particular interest in regard to them is the connection which appears to exist between some of the skeletons and the charred human bones found above them. Similar deposits of partially burned bones, supposed to be human, have in one or two instances been observed on the altars of sacrificial mounds, and occasionally in mounds devoted to sepulture, but their connection with the human remains buried in the latter, if indeed any existed, appears to have been overlooked. Our explorations, which were very carefully and systematically conducted, clearly demonstrated that in these instances the incremation had taken place directly over the tomb, and evidently before the regular interment was completed; taking these facts in connection with what the researches of other investigators have made known concerning the superstitious rites of this mysterious people, it seems natural to conclude that in each of these cases a human victim was sacrificed as a part of the funeral ceremonies, doubtless as a special tribute of respect to a person of distinction."

These copious extracts from the report of Mr. Marsh, of his explorations of a mound, doubtless erected by the constructors of the Newark works, is given, for the important information it affords as to the character of these people, and because the minute and pains-taking care exhibited by him in the exploration may well be taken as a model to guide others in similar explorations.

If all the mounds in Ohio, not less than ten thousand in number, were as carefully explored, it would throw a flood of light upon the character and social condition of their builders.

Mounds of observation are usually smaller than the last, generally occupying elevated places constituting a series of signal stations, and sometimes located on alluvial plains in positions commanding an extensive view up and down the valley. Natural elevations often show, by the accumulation of charcoal and burned stones, that they were used as signal stations; but whether these were used by the mound builders or by the more modern Indians, can not be determined, but it is probable they were used by both for this purpose, as were also the burial mounds when properly located.

A large number of still smaller mounds are called, and probably correctly, altar mounds. They are usually connected with other works and include altar-like constructions of stone or clay on which are found ashes, charcoal, calcined bones, some of which have been identified as human, and specimens of nearly all the domestic and military utensils and ornaments of the mound builders. The circular enclosures, as in the instances above given, often have such mounds at the center.

Of effigy mounds there are comparatively few in the State, but among these the Serpent Mound, of Adams County, and the so-called Alligator Mound, of Licking County, are conspicuous examples. They are so well known, and have been so often described, that a repetition of the descriptions here is unnecessary. The so-called Alligator Mound is a very poor imitation of an alligator, having a long tail curved in a manner that no American animal could imitate, except the opossum. The walls of Fort Ancient, in Warren County, have been described as two huge serpents, but the early plats of it show nothing to justify this description.

MINING BY THE MOUND BUILDERS.

The extensive pre-historic copper mines of Lake Superior, first accurately described by Col. Whittlesey, are without doubt the work of the mound builders, and the source from which they obtained the greater part of the material for their copper implements and ornaments. Some of it they doubtless obtained from the drift. These mines were opened by means of their rude tools, with great labor, wooden shovels being used in removing waste material. The rock enclosing the copper was subjected to the action of fire, and broken up by stone hammers and mauls. Pieces from the masses too large to handle were laboriously cut or pounded off with their stone axes, and pieces too large to be handled in any other manner were slowly raised to the surface by prying up the alternate sides, placing small timbers beneath and building them up under the load in the form of a log house. The copper thus obtained was sometimes worked into implements in the neighborhood of the mines, as important finds in that region show. Several copper spears and knives have been found together, showing that they were not accidently lost but buried for safe keeping. The great abundance of mica found in the mounds is evidence that the builders made long journeys to engage in mica mining, or maintained a system of exchanges with those who worked the mines. This mineral was held in high esteem, and was obtained in large quantities. Skeletons have been exhumed entirely covered with it.

Masses of galena have been found in Ohio mounds too large to have been obtained in the State, and which were doubtless the product of galena mining. Lead is so easily obtained from galena that it would be strange if the mound builders did not stumble upon the mode of reducing this ore, but the metal would not be of great value to them. In the State Collection is a lead ornament found in the ditch within the great Circleville enclosure; but the form is so much like that of the lead tomahawks the school-boys made, when they

used lead to rule their writing paper, that it is reasonably inferred that it is of modern manufacture.

Salt was evidently manufactured from natural brine springs by some of the native races in other localities, but the evidence is wanting of its manufacture within the present limits of this State.

In the "oil territory" of Trumbull County, are prehistoric wells which were apparently sunk to obtain petroleum, but whether the work of mound builders or of the more recent tribes, is not apparent. It is known that the Indians highly prized the petroleum from springs, and used it as a medicine.

ALPHABETIC WRITING AND ENGRAVED TABLETS.

On the present site of Cincinnati, at its first discovery by the whites, was a series of mounds, earth-works and embankments, which, according to the account given by General Harrison, were among the most extensive in the State. In one of these mounds, explored in 1841, was found, as it is alleged, the "Cincinnati tablet," which has given rise to much discussion, and has been classed among the "frauds" by expert and conscientious archaeologists; but the vindication of its authenticity, published by Mr. Robert Clark, of Cincinnati, in 1876, may be regarded as fully satisfactory and as entitling it to a place among the authentic relics of the mound builders. It is made of a dark, fine-grained sandstone, and as no verbal description could be made to convey an intelligible idea of it, a cut of both sides of it, of full size, is here given, which was kindly loaned for this use by Mr. Clark. An inspection of the cuts will lead to the ready inference that it is not a writing of any kind. There are slight differences between the engraving and a cast of the relic. In the cast the two bars at one end of the tablet are each connected at the middle with the central work, so that all that is included within the outer margins constitutes one

CINCINNATI TABLET.

CINCINNATI TABLET, REVERSE.

figure with bilateral symmetry. It is a work showing much skill in stone-engraving, both in the execution and in the almost exact duplication of the separate parts, but its signification, if it has any, is not apparent. The supposition that the conspicuous markings at the two ends are copies of standard measures of length is scarcely tenable, when it is noted that in the cast neither of the series of divisions are of equal length and that the smaller are not subdivisions of the larger. Mr. Clark sends me a photograph of a somewhat similar engraving said to have been found in a mound. It is smaller, very much less skillfully executed, and lacks the bilateral symmetry of the "Cincinnati tablet." A cut of the reverse side of the latter is given, but it probably has no significance.

The sand-stone tablet, alleged to have been found at Wilmington, is in some respects like the "Cincinnati tablet." According to the engravings published it is far inferior in execution. There is only a partial attempt at bilateral symmetry, and the duplication of parts is inaccurately done. This, and the unintelligible carving on the slate ornament, might pass as genuine relics were it not for the character of the animal and human carvings on the other part of it. The free-hand attempt at shading the animal figures, the graceful outlines of the human figures, the delineation of their clothing, particularly the close-fitting garments of the male, and the character of the weapons he carries, which have been previously described, all indicate that they do not represent barbaric art. A doubt of their genuineness is no imputation upon the integrity of those who have given descriptions of them to the public. The best collections of relics contain forgeries, some of which have been purchased for a large price, and almost every community can furnish those who will take great delight in imposing upon explorers of mounds. If the genuineness of all these relics were conceded, they do not afford, as is claimed, any evidence of the use of writing. What are claimed to be written characters in all of the squares, are laboriously unlike in all their

details. A writing of that length, either alphabetical, pictorial or symbolical, would certainly exhibit repetitions.

The controversy over the Hebrew iuscriptions, claimed to have been found by David Wyrick, near Newark, is now generally regarded as closed. They were found when evidence was eagerly sought to connect the aboriginal races with the house of Israel. Now that the idea of such a connection is abandoned by all, the discovery of Hebrew inscribed stones would be an anachronism, for such forgeries will always in some way represent the ideas of the time of the forgery. As an example, the greatest forgery of this century is the book of Mormon. A careful reading of it will disclose to any competent critic very nearly the date of the forgery. It was written during, or very soon after, the controversy between Masonry and Anti-Masonry, and is decidedly Anti-Masonic. It was written during the theological controversy over popery pedo-baptism; the salvation of infants; a paid priesthood, election and free-will, all of which questions it attempts to settle; when the "falling power," as it was called, was regarded as the work of the Spirit, which it describes and approves; while the act of divination by looking into a crystal was believed in by some; while it was believed that the native races here were Israelites; and before contact with Europeans, worshipers of the Great Spirit, and while it was popularly believed that the linguistic peculiarities of our bible were wholly characteristic of the languages in which it was originally written, and not of the state of the English language at the time of its translation. These internal evidences fix the date of its composition as about fifty years ago.

Mr. Wyrick's first find was the inscribed key-stone in the form of a Masonic emblem on which was carved in Hebrew of the twelfth century, "The King of the Earth." "The Word of the Lord." "The Laws of Jehovah." "The Holy of Holies." In the year following he "found," enclosed in a neat stone box with a closely fitting cover, a stone tablet having on it an effigy of Moses in priestly robes and an

epitome of the ten commandments in Hebrew. Surely no better evidence could be secured of a Hebrew migration to this country. It is significant that Mr. Wyrick's published account of the "finds" was largely devoted to an attempt to prove that they could not be forged, and that upon his death there was found in his working-room a Hebrew Bible which doubtless aided him much in finding Hebrew inscriptions.

These Holy relics were sold to David M. Johnson, of Coshocton, Ohio, who in 1867 employed laborers for several days in exploring a mound from which one of the inscribed stones, he obtained from Wyrick, was taken. His search was rewarded by finding *inside of a human skull* a conical stone about three(3) inches long on which was also a Hebrew inscription. No one seems to have been surprised by the peculiarity of the place in which it was found, or to have doubted its genuineness. It is probable that no archaeologist of fair standing can now be found to advocate its genuineness or that of the Wyrick finds.

Perhaps no relic has been the cause of more discussion in Ohio, and among archaeologists everywhere, than a small piece of sand-stone covered on one face with inscribed characters and which it is alleged was taken from a vault in the Grave Creek Mound, in 1838. Some years ago, as one of a committee appointed for that purpose by the Ohio State Archaeological Society, I undertook to gather up all the evidence that could be secured in regard to the finding of this relic. Numerous letters were received from those engaged in the exploration, or who were present when it was found. All answered every inquiry fully and frankly. These letters were turned over to the Northern Ohio Historical Society, of Cleveland, for preservation. From all these letters it may be regarded as well established—

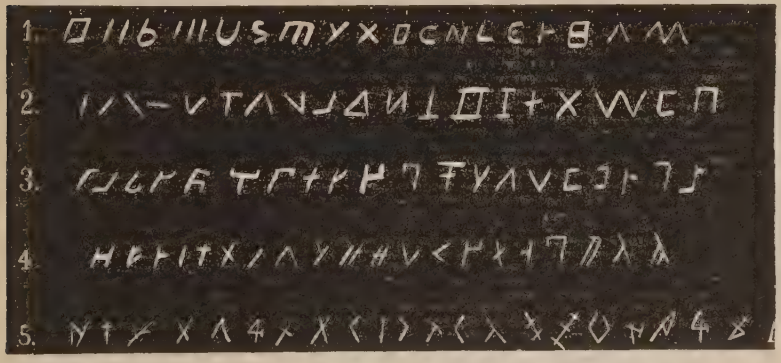
First. That this relic was first seen in the loose dirt, wheeled out through a tunnel leading to the centre of the mound, and dumped in a pile, from which it was picked up

and exhibited to those standing by, all at once assuming that it came from the mound.

Second. That no one questioned its genuineness or gave it any scrutiny to see whether it showed evidence of recent manufacture. Hence the character of the inscription can now be determined only by an examination of it, or of engravings of it.

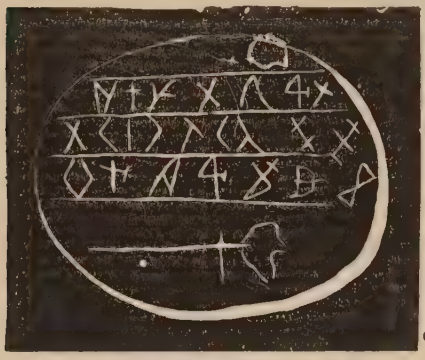
It is very easy to manufacture a series of arbitrary characters which would constitute a good alphabet. It is not so easy to forge an inscription with it. In an inscription the letters will be duplicated, or doubled, and will be repeated with a frequency in an inverse ratio to the number of the characters in the alphabet used. The forger of an inscription will proceed very much as if forging an alphabet, and it will rarely occur to him to double or repeat his characters. In a forged alphabet, also, a genetic relation will frequently be observed between letters and those immediately preceding, the one being a modification of the other. In using the same letters in an intelligible inscription this connection will be broken.

To illustrate these facts, four different persons were asked to write each an inscription in arbitrary characters, unlike the letters of any alphabet they knew, and without being informed as to the object of the request. These inscriptions are here copied, and all of the characters except the last two of the Grave Creek Mound inscription :



No. 1. By a teacher and law student.
" 2. By a school girl.
" 3. By a druggist.
" 4. By a college professor.
" 5. The Graw Creek inscription.

The latter may be compared with an engraving copied from the stone, which is here inserted:



The genetic relations between different successive characters can be clearly seen in all these inscriptions, that from the Grave Creek Mound, included. The writer of each often had one character in mind when making the next one, and gave a modified form of it.

There is no doubling of letters in any of them, and there is no certain repetition of letters. In the Grave Creek inscription, the 4th from the left, is somewhat like the 8th, and the 6th somewhat like the 20th. In a cast of the stone these characters are more unlike than in the engraving. If it is conceded that there are two repetitions, it will be found that taking a sentence of equal length from any known alphabetical writing, the repetitions will be much more numerous. The inference is that the inscription is not alphabetical, an inference greatly strengthened by the smallness of the characters, the fineness and distinctness of the lines forming them. The character of the tools for writing on stone, which the mound builders must have used, if they wrote at all, is apparent from the preceding pages. This inscription requires for its production as good an instrument as a sharp-pointed steel knife. With that it could easily be produced in a very few minutes.

As the case now stands, it can well be said that there is no evidence that the mound builders knew or practiced the art of writing. Further, that their social and artistic condition, as disclosed by the study of their remains, was not such as to make the discovery of the art of writing probable.

SOCIAL AND CIVIL CONDITION OF THE MOUND BUILDERS.

The social condition of the American hunting Indians has been pretty thoroughly known through the direct contact of the civilized nations; but that of the "mound builders" is not so easily learned. A special definition of this term is a necessary preliminary to the investigation, for many of the hunting races, inhabiting the country after the advent of the whites, were mound builders, and the erection of mounds, especially in the southern part of the territory now including the United States, was continued to quite modern times. Articles of copper, silver and steel, of unquestioned modern manufacture, are found in southern mounds as deeply and securely buried as the implements found in Ohio mounds. The term, unless the context otherwise shows, will be used to designate the builders of the elaborate structures found in Ohio annd the other works attributed to the same age.

The facts above recorded, as well as the concurrent testimony of all the well established facts, show the want of three very important aids to civilization: domestic animals, iron or steel tools, and the art of writing. The want of the first is almost an inseparable obstacle to emergence from barbarism. The pastoral condition which was here impossible, is normally the first advance from the hunting condition. Flocks and herds are the first important accumulations of capital for distant future use, and their possession leads man out of the savage habit of content if his immediate wants are supplied, and induces labor and forethought for the future. The flesh, skin, milk and wool of these animals provides more abundantly for his wants, developes arts for

preparing and utilizing them, secures a more compact social organization, and less vagrant habits. These lead upward to the practice of the art of agriculture and a special appropriation of land interfering with its pastoral use, followed by controversies like that between Cain and Abel, in which the agriculturist is generally victorious, because his is the superior condition, leading to further advancement. It is not without significance that the descendants of Cain were represented as the discoverers of the arts of metallurgy. The single domestic animal of the Peruvians, valuable for food, as a beast of burden, and for its wool, gave them a great advantage over all other American tribes. Its wool developed the art of spinning and weaving, gave them better clothing, and with many other important advantages, gave them the use of sails and the art of navigation. North America, with its deeply indented coast line, was more favorable to navigation, but a sailboat was nowhere found by its first European explorers.

The mound builders reached the agricultural without passing through the pastoral condition, but the want of efficient metal tools must have made that agriculture comparatively unproductive. Their agriculture consolidated them into village communities, gave them a compact, social organization which made the construction of the remarkable works they have left us, possible. If they had stumbled apon the art of producing iron and steel, they would doubtless have attained to a true civilization. Without it we should naturally deem this impossible; and we in fact find that all the relics of the arts they have left us are barbaric. Their sculptures and carvings often show much skill and very patient, long-continued work, but to the modern eye are not artistic. Their clothing must have been of a primitive character. The fragments of textile fabrics preserved are coarse, and the use of strings of bark fibre for their most costly necklaces, as disclosed by remains found in a mound by Mr. Marsh, sufficiently attest the want or scarcity of better spinning fiber. They were doubtless largely clothed

in the skins of wild beasts, and they perhaps utilized the wooly hair of the buffalo by spinning and weaving it. They found leisure for the attendance of large concourses at religious or civic festivals, as the elaborate and costly enclosures evidently designed for some such use, abundantly testify. They manufactured pottery, but it was all rude. They made long journeys in search of copper and mined it in the most primitive manner, but they did not learn the art of making castings of it, or of consolidating the small fragments by melting them. They probably sunk wells for petroleum where it could be obtained from seepings through the earth, but no vessel which is suspected to be a lamp for burning it, or animal fats, for light has been discovered. They wrought chert and stone and shells into about as many useful forms as modern workmen could, with their more perfect tools, but these were all very poor substitutes for modern steel tools. They believed in a future life, and provided the dead with the weapons of war and of the chase and the domestic utensils they had used in life and dispatched with them on their long journey their wives and attendants as companions. Their later history was probably that of a long-continued struggle against the aggressions of hostile hunting tribes and the encroachments of forests, before the combined influence of which they were forced to retreat.

Standing beside some of their remarkable earthworks, a glamour of admiration leads us to picture, in imagination, a departed race, learned in all the highest arts of civilization. But under the careful study of their remains the picture vanishes, and leaves in its place that of a patient, plodding people, with poor appliances, struggling towards civilization while still on the confines of barbarism. If we compare the artistic remains found in the mounds with those exhumed on the sites of the most ancient Asiatic cities, the contrast, both in the variety of articles and skill displayed in their production, is very great, and precisely such a contrast as we ought to expect between peoples having good metal cutting tools and those without them.

If it is asked of what race were these mound builders, it now can only be said they were one of the native American races, closely allied to the hunting Indians, and probably a branch of the same race. There are certain peculiarities of the skulls and jaws of the skeletons, found in the mounds, which are supposed by many to separate them from the other native races.

The description of the skulls found by Mr. Marsh, in a mound at Newark, as given in the quotation from his report, indicates the character of these peculiarities, which also characterize a skull obtained from a mound at Marietta, and two obtained from a mound near Chattanooga, Tenn. The lower jaw is larger and more prognathous than that of the modern Indian, and so articulated that the incisors of each jaw meet squarely when the mouth is shut, not passing each other so as to give a scissor-like cutting action, as do the incisors of modern civilized people. Hence the action of the incisors is a grinding and not a cutting action, and these teeth are worn off on the same plane as the molars, and of necessity, just as fast. In none of the jaws of these skulls were there any unsound teeth, but all were remarkably worn away, all of the incisors equally with the molars. This rapid wearing away of the teeth, which is frequently observed in savage races, and is seen in the early British skulls, is the result of eating hard, unground grain, or of a want of neatness in preparing food, leaving it filled with dirt and sand. Ordinarily the latter is the cause. Either is incompatible with much advance in civilization. This form of the jaw and mode of its articulation, which brings the incisors of the two jaws into direct contact, is not, as supposed, peculiar to the mound builders, but is often seen in skulls which plainly belonged to modern Indians, and occasionally in the white race, when the one having that peculiarity is said to have double teeth all round. This peculiarity is seen in a skull taken from an Indian burial ground near Fairport, Lake County. Comparing this skull with that from the Marietta Mound, the following differences are observed: The lower

jaw of that from the mound is more massive and more prognathous. The front teeth are larger and all the teeth are more worn; all are sound, while two in the Indian skull were partly decayed. The forehead is narrower and more retreating, and there is a marked occipital protuberance greatly exceeding that on the Indian skull, above which is a suture, below the lamboid suture, which is wanting in the Indian, and in most modern skulls. The supercilliary ridge is more prominent, the molar bones larger, but more retreating; the chin less prominent, the cavities for the eyes less circular, and a little more oblique; and the nasal cavities smaller in the skull from the mound. All the cranial characteristics of the Indian skull, although it is smaller, are of a higher type than are exhibited by the skull from the Marietta mound.

Note.—The Indian skull was pierced, while living, through the occipital bone with some sharp cutting instrument, about an inch and a half wide, which pierced the brain, and was evidently the cause of death.

WERE THE MOUND BUILDERS THE FIRST OCCUPANTS OF THIS REGION?

The fire hearths along the banks of the Ohio River, described by Col. Whittlesey and Mr. Thomas W. Kinney, are doubtless of an earlier date than the mounds, but unless the builders of these were an intrusive people, bringing with them their practice of mound-building, they may have occupied the country for centuries before the building of these structures. On the banks of the Tennessee River, between Mussel Shoals and a point a little above Chattanooga, a rude chronology is preserved that is of especial interest. Along the banks of the river are many little shell heaps containing various relics of a rude art which clearly indicate the artificial character of these mounds. Scattered through them are many minute bivalve shells, clearly indicating that the water formerly covered the mounds, and that they were probably the accumulated refuse from residences built on piles over the water. The extent of these mounds indicate long-continued

occupancy, and if, as appears, by the occupants of pile-dwellings, this fact can probably be demonstrated by the careful excavation of the earth under and around the shell mounds.

The first terrace above the river is covered with the bleached fragments of river shells, of such a character as to clearly show that the water of the river covered the terrace when these shells, which are of the same species as those now in the river, were deposited. A little above Chattanooga the soil of the terrace is filled with these shells, and here on this terrace is a large sepulchral mound which was partially explored in 1864. It was built up from the alluvial soil of this terrace, and contained large numbers of shells like those scattered upon the surface, so well preserved as to show that the mound was built shortly after the recession of the water, and before the shells were bleached by atmospheric influence. On the same terrace, and close to the mound, is the site of a manufactory of pottery and of chert implements, the material for the latter being very abundant in the immediate neighborhood. The soil is filled with flakes of the chert, with broken and perfect chert implements, as well as with fragments of pottery and amorphous masses of partially burned clay. It is difficult to take up a shovel full of earth without taking with it some of these relics, but not a trace of them was found in the mound, making it certain that its erection preceded the rude manufactory. The shell heaps pertain to a human occupancy when the water of the river covered the first terrace, the building of the mound to an occupancy immediately after the water had fallen to its present channel, and the manufacturing of pottery and chert implements to a time subsequent to the erection of the mound. If the withdrawal of the water from this terrace is to be attributed, as seems probable, to the wearing away of a narrow rock channel of the river directly below Chattanooga, it will carry back the date of the mound and of the preceding shell heaps to a very remote period. The mound is in all respects a typical mound builder's sepulchral mound.

In explanation of a possible find which may astonish some future explorer, it should be stated that the examination of the mound was made during the war, when the land around it was cultivated by the United States Sanitary Commission as a hospital garden. A tunnel was carried in from the east side to the centre of the mound where a chamber of considerable size was excavated. As the walls stood firm, this chamber was utilized by the gardener as a store-house. When all the guns of the forts about Chattanooga were simultaneously discharged in celebration of Lee's surrender, the concussion caused the top of this chamber to fall in, burrying at the center of the mound a large number of modern gardening tools. The top of the mound was restored to shape, the entrance to the tunnel closed, and the tools left to await a resurrection at the hands of an antiquarian.

The last occupancy of the banks of the Tennessee disclosed above was doubtless by modern Indians; the next by the "mound builders," as distinguished from modern mound building Indians. Whether the earliest was that of an earlier stage in the life of the mound builders can not as satisfactorily be determined. The probability is that of different tribes.

The question as to the origin of the mound builders would be answered if the question of the origin of the other native races was solved. Whether the new world, as it is called, which is in fact the old world, was peopled from the old, or the reverse, can not be determined. Linguistic and other evidences indicate a point in Southern Asia, or in a submerged land south of it, from whence an emigration started which gradually spread over all that continent. This, if true, would make it probable that emigration from the same point extended to this continent. This would lead to the inference that it was peopled by some early branch of the Mongolian race, to which the American races are most nearly allied, by the way of Behrings Strait, and the Auletian Islands, perhaps reinforced in South America, as Haeckel suggests, by way of the Pacific Islands, from Southern Asiatic

tribes. If this was the case, this emigration was at a very early date, as nearly all the customs, habits, arts, and even languages of the American races seem to be indigenous.

The practice of scalping, common to the American Indians and the ancient Scythians, is the most apparent evidence of race affinities between the people of the two continents. It is evident also that the more civilized American races practiced some forms of the sabian and plallic worship which characterized the earliest known religious culture of Asia, and that the use of the cross was intimately associated with this worship in both continents. The ceremony of baptism, called a new birth, pertained to both, and there are indications of the practice of other rites and ceremonies substantially the same on both continents. But these points of agreement are few, and if not accidental, point to a time anterior to all written history and to a social condition essentially barbaric.

To the finds, as claimed, of a stone carving buried beneath ten feet of glacial drift, in Stark County, and of the antique chert knife in the drift in Summit County, may be added the claim of a find of a beautifully polished stone axe, at the depth of twenty feet, in Ashland County. If these finds are accepted as authentic, we must assume that these articles were manufactured before the close of the glacial epoch. But the Summit County specimen was found where there was only two or three feet of drift clay over the rock surface below, and various causes may have carried it from the surface to that depth.

It is also not claimed that any one saw either of the other specimens in the clay matrix at the bottom of the well. They both appeared in the material dumped from the buckets used in hoisting material from the wells. The evidence of the finding of pre-glacial implements must be so certain as to exclude any other reasonable hypothesis. Such evidence is not afforded in these cases.

In Europe, rude carvings demonstrate the co-existence of man with some of the extinct animals. Such carvings are

generally wanting here. But the bones of the elephant and the mastodon are found near the surface, sometimes in marshes that are alternately wet and dry, in a much better state of preservation than some of the human bones at the bottom of burial mounds where the conditions for their preservation are much more favorable. Placing such bones side by side and bearing in mind the places from which they were exhumed, one can not resist the conclusion that the human remains are quite as old as those of these extinct animals. With these facts apparent, there is no intrinsic improbability of the antiquity of the "elephant pipes" in the Davenport collection. The manner in which they were found does not indicate that they were "planted to deceive." They are of the recognized form of the mound builders' pipe, a form not imitated by modern Indians. The preponderance of evidence is in favor of their genuineness, which, if granted, proves the co-existence of the mound builders with the extinct American pachyderms.

Evidence of a very remote human occupancy, approaching the close of the drift period, is not wanting. Mr. Abbott's many finds of "drift implements" are all found in the modified river drift, and while he makes a pretty strong case that this modification occurred at the close of the drift period, the most conservative archaeologists are awaiting the discovery of undoubted human remains in the unmodified drift. Until such a discovery is made, the existence of man at the time of the glacial epoch on this continent will be regarded as an open question.

Addendum.

After this report was completed, Mr. Rufus Chapman, of Garrettsville, Ohio, brought to me an unique specimen, obtained by him from a neighbor who plowed it up in a field at a place where several "Indian relics" had previously been found. It is made of blue porcelain of the form shown in the figure: $11\frac{8}{10}$ inches long, and in diameter, $1\frac{4}{10}$ inches and 1 inch. It is hollow, as is shown by its weight, and by a small fire-crack in one of the grooves through which the cavity can be explored by a stiff hair. It is smooth, very symmetrical, and could be formed only in a carefully prepared mold in two pieces, and the parts attached to each other while the material was plastic. The adhesion of the two parts is perfect, leaving a slight ridge, but no other indication of the place of junction. On one of the ridges, near the end of the piece, is an imperfection, showing that after it was taken from the mold, this place was repaired by the addition of the plastic material, which did not make the ridge at that place perfect.

Mr. Holmes, of the Bureau of Ethnology of the Smithsonian Institute, after an examination of it, says: "No one here has seen anything like it. It is made of porcelain, a material unknown to the American aborigines. It is therefore not aboriginal, and is probably not ancient. It looks as if it might be an implement intended for use in some of the arts—in the manipulation of fiber, skins, leather, or the like. Some one will probably be found who can tell you all about it."

If designed for such use, the reason is not apparent of the greatly increased labor of making it hollow. A wood cut of the specimen is here given, and information solicited from any who have seen similar articles or have any knowledge of the uses to which they were applied. The cut is a little less than one-half natural size.

HISTORICAL SKETCH

OF THE

Western Reserve Historical Society,

CLEVELAND, OHIO,

BY D. W. MANCHESTER, SECRETARY.

For some years prior to the organization of this society, the value and importance of such an institution had been fully foreseen and measured by a few—and I think it may safely be said by only a few—of our citizens. Some of them were men whose birth began almost with the first settlement at the mouth of the Cuyahoga; others antedated its birth as a village; the most of them were older than the city, and all were men of intelligence, progressive in their natures, broad of view, comprehensive in idea, farseeing and reaching in grasp, while but few were especially given to historical study and investigation and scientific and antiquarian research. Outside of these, this small circle, it seemed to have but few friends, but they were steadfast, persevering and undismayed through all the struggles and adverse fortunes

incident to its beginning. Cromwell said to the painter of his portrait: "Put in every wrinkle and wart; paint me as I am." To the men who took the initial step in the formation of this association, the background and coloring all were full of "gorgeous hues and glowing tints." To the customary salutation, "Good day," of an acquaintance, Ben Johnson replied: "Sir, it may be propitious, but the atmosphere is humid and the sky nebulous." And so, though the atmosphere surrounding these faithful, earnest men may have been damp and the horizon dark, yet they knew that it was only in a storm that the rainbow appeared. They had a correct appreciation and full comprehension of both the magnitude and importance of the undertaking. There were then living in their midst men and women who, on their first arrival, found here only Indians and a wilderness. Referring to this period, a worthy member of this society has said:

"The early emigration to Ohio represented in its composition fully and adequately the spirit of the Union. On her fruitful soil the culled grain from New England, the middle states and the south was sown, and the product was a race of giants. If these emigrants were not versed in the learning of universities and colleges, they had been educated at a higher academy. The prominent elder men had been soldiers of the Revolution, and the young men had graduated in that school of self-sacrifice, nobleness and exalted patriotism, which eminently fitted them to become the founders and builders of a state. In looking back to that time, they seem to resemble in appearance the great trees of the virgin forest which covered the land, and not the smaller timber of a second growth."

From these early settlers, these sturdy, hardy pioneers, much of historical interest and value could be obtained and secured, and the aim of the founders of this society was to provide the means and facilities for its preservation and to render it of usefulness and interest to present and future gen-

erations. And so we have here, among other things, the simple articles of their simple, honest lives, the plain implements of plain industry, now cherished "relics"—the spinning wheel, the swift, the reel, the hetchel, the flax wheel, the swingling knife, the neck-yoke, the warming-pan, the tin oven, the tin lantern, with its "grater" appearance, the charcoal foot-stove, the keg canteen, the tongs and long-handled iron shovel, the andirons, the crane and hooks, the iron and brass candlesticks, the snuffers and tray, the pewter platter and spoons, the wooden trencher, the sand-box instead of "blotters," the wafers instead of self-sealing envelopes, the quill, the hour-glass, etc.

The plan of organization of the present Western Reserve Historical society was first suggested by C. C. Baldwin, its present president, while he was vice-president of the Cleveland Library association, now Case library, early in the year 1866. Of this, Colonel Whittlesey, who furnished material for an article published in the *Illustrated Detroit News* of December, 1881, says:

"A slight reference to the Historical Society of Cleveland will give an insufficient idea of its importance, not only as an enduring monument to the zeal of its founders, but as showing how much may be accomplished in so short a period of time. The society originally comprised about twenty persons, organizing in May, 1867, upon the suggestion of Mr. C. C. Baldwin, the present secretary. The real work fell upon Colonel Whittlesey, Mr. Goodman and Mr. Baldwin —Mr. Goodman devoting nearly all his time until 1872. His death in the same year was a serious loss to his colleagues and the interests of western history."

There had been previously a pioneer society which held large and enthusiastic annual meetings at Newburgh. But the interest died away, and the society languished and became practically at an end. It seemed to Mr. Baldwin that there should be a society formed with somewhat different ends, and so organized and planned that its work done should be preserved.

During the next year of the association, 1866–7, the plans were perfected, and at the annual meeting of May 7, 1867, amendments were made to the constitution of the Library association authorizing the formation of departments, historical and scientific, and so planned that while each department would be quite distinct and separate, yet, if such untimely fate should befall it as befell the Pioneer society, its collections would be preserved by the library.

The Kirtland Society of Natural History, though separately organized, finally fell into the same plan, and its rooms are now in connection with the Case library.

The records read:

"On Thursday evening, April 11, 1867, a meeting was held in the directors' room of the Cleveland Library association, on Superior street, near Seneca, at which were present the following persons: Colonel Charles Whittlesey, Joseph Perkins, Judge John Barr, H. A. Smith, Charles C. Baldwin, attorney-at-law, and Alfred T. Goodman. The object of the meeting thus assembled was to take steps towards the formation of a historical society in the city of Cleveland. The meeting was not organized in a formal way, but Colonel Whittlesey acted as chairman. A discussion was held as to the name the association should take, the following being finally adopted, viz.: 'The Reserve Historical Department of the Cleveland Library Association.' Judge Barr, Mr. Baldwin and Mr. Perkins expressed themselves favorable to this name.

"Further discussion was had upon the objects of the association, manner of organizing it permanently, etc., which was of great interest."

Of those present at this first meeting, Judge C. C. Baldwin alone survives. The amendment above referred to was offered at the annual meeting, in the following May, of the Cleveland Library association. Article V, under which this society was organized, was adopted at the annual meeting, May 7, 1867, and reads as follows:

"Section 1. Historical and scientific departments of this association may be organized upon the written application of ten members, who, with their associate members in such department, shall, for the management of the same, elect a board of nine curators.

"Section 2. After the first election three members of said board shall be elected annually, all of whom shall hold office until others are elected to succeed them. Said board shall elect a president of said department and three vice-presidents and such other officers as may be required by the by-laws of this association, and shall make report of their proceedings to the board of directors ten days previous to the annual election of this association."

Pursuant to the constitutional amendment, adopted May 7, 1867, authorizing special departments, an historical section was drawn up by C. C. Baldwin, inaugurated on the twenty-eighth of May by the following paper, signed by the requisite number of members:

"*To the Board of Library Directors:*

"The undersigned members of the Cleveland Library association hereby associate ourselves as a department of history and its kindred subjects, in accordance with the provisions of the amended constitution, and agree to proceed immediately to organize said department by adopting the proper rules and regulations and the appointment of officers.

"[Signed] M. B. Scott, Samuel Starkweather,
A. T. Goodman, J. C. Buell,
Peter Thatcher, Henry A. Smith,
W. N. Hudson, C. W. Sackrider,
J. D. Cleveland, J. H. A. Bone,
George Willey, Joseph Perkins,
E. R. Perkins, A. K. Spencer,
John H. Sargeant, H. B. Tuttle,
W. P. Fogg, C. C. Baldwin,
George R. Tuttle, T. R. Chase,
Charles Whittlesey."

The Cleveland Library association, from which this society derived its legal existence, was incorporated in 1848, the purpose being, as stated, for a library and an annual course of lectures. This was, for many years, the only public library in Cleveland, and was of great benefit to the community in an educational sense in both its functions as a library and in its lectures. It is the outgrowth of a society organized in 1811 by sixteen persons, citizens of the village, none of whom are now living, but who left their mark and impress on the community.* The War of 1812 and the financial depression incident thereto effected its dissolution. In 1833 a number of those who were instrumental in its formation in 1811 were yet living and organized a lyceum, and in 1835 a reading-room association was formed in connection with and in addition to it, and in 1836 the Young Men's Literary association was formed for library purposes. In 1843 this was dissolved and the books, some eight hundred volumes, in part found their way into the present library. In 1845 the work was again taken up under the same name, which continued until 1848, when it became a corporation under its present name.

The Historical society in its young days found some substantial pecuniary friends. Mr. John F. Warner died about the time it was organized and by his will gave it five hundred dollars, as lately the sister of Mr. Warner has done. These are the only pecuniary legacies ever made to it. That of Mr. Warner was very useful indeed in the infancy of the society.

Other gentlemen who have made liberal gifts are Mr.

* They were as follows: William Gaylord, Abijah Hewit, James Kingsbury, Alfred Kelley, John Lanterman, David Long, Daniel Mosher, Elias Murray, Harvey Murray, Nathan Perry, James Root, George Wallace, John Walworth, Samuel Williamson, Matthew Williamson, Stephen King. This was three years prior to the incorporation of Cleveland as a village. The year previous, 1810, it numbered eighteen families, the total population being fifty-seven persons. So, in 1811, about one-fourth of the entire population were members of the first Cleveland Library association.

William J. Gordon, haply still living, who gave one thousand dollars towards the endowment of ten thousand dollars. The late Joseph Perkins contributed another one thousand dollars. Mr. Perkins time and again made smaller contributions, and was always ready with his purse. He reprinted at the time of the funeral of General Garfield Tract No. 20 (General Garfield's Address on the History of the Northwest), and always subscribed liberally to any especial purpose or object of the society.

His advice was always valuable and his friendship strong. He was desirous that the society should have an entire building of its own.

By far the most liberal friend of the society was the late Leonard Case. He preferred at first that the society should have its rooms in his block—since donated by him to the Case library. It was thought best to locate in the new block of the Society for Savings, that society in building its fireproof edifice having built and arranged the whole of the third story for the society, and on the most liberal terms, alike honorable to itself and the gentlemen directing it, and beneficial to the public. Mr. Case's interest continued, and it would be impossible to give an accurate account of his kindnesses. It was characteristic of Mr. Case that he never intended his charities to be counted. He authorized the purchase of a library, and with Mr. Case as capitalist and Dr. Elisha Sterling to select it, the library rapidly grew and was selected with exceeding skill. Mr. Case never stopped because a book would cost money. If it was of value to the society, price was no hindrance. Mr. Case gave towards the endowment the sum of three thousand dollars. His subsequent gifts were large and valuable, and were generally given in a very characteristic manner.

Once when there were many volumes of unbound newspapers, he asked, "Why don't you get those bound?" and on reply, said, "Send them to the bindery and the bill to me."

The bill was several hundred dollars. Once he asked: "Would not you like some Indian photographs?"

The result was the donation of a couple of thousand of photographs of persons and other matters pertaining to aboriginal life, a collection of which it was said there were only ten in the world.

In similar manner he caused to be made and presented the fine models of cliff dwellings and other monuments of antiquity which ornament the rooms.

At one time he presented the fine copy of Lord Kingsborough's 'Antiquities of Mexico,' with the voluminous copies in colors of the picture-writing of the Aztecs. It is in nine immense, finely bound folios and was published, it is said, at over one thousand dollars. Mr. Case did many more other liberal things.

Other large donors to the library have been its late president, Colonel Charles Whittlesey, who gave it his library, selected through many years and containing many books relating to Ohio and other states, which could not well be duplicated, and the present president, Mr. Baldwin, who has given it hundreds of volumes, worth more than a thousand dollars. Among the books donated by Mr. Baldwin is the fine hand-painted folio edition, in three immense folio volumes, of Hall & McKenny's 'Indians.' This copy was the property of William L. Marcy, secretary of state. A similar copy was priced a few months ago in New York at two hundred and fifty dollars.

A gentleman who should also be mentioned in this connection is the Honorable R. M. Stimson of Marietta, to whose learning, generosity and kindness the society is greatly indebted for its quite full collection of rare and old state documents and other rare books. The rare union of ability, learning and kindness in the donor made the service unique.

The historical department adopted the by-laws, which were unanimously accepted and ratified on the fifth of June,

1867, by the directors of the Library association, after which the officers provided for were elected. By resolution of the library directors, the splendid fire-proof room, twenty-nine feet by one hundred and twenty-five, in the savings bank, is especially devoted to the purposes of history, mechanical arts, specimens in natural history and natural science, maps, manuscripts, likenesses of the pioneers, relics, engraved views, etc., constituting a valuable museum.

The following officers were chosen:

"President, Charles Whittlesey; vice-president, M. B. Scott; secretary, J. C. Buell; treasurer, A. K. Spencer.

"*Ex-officio* curators for one year: Peter Thatcher, A K. Spencer, Amos Townsend.

"Curators for one year: J. C. Buell, H. A. Smith; curators for two years: C. C. Baldwin, M. B. Scott; curators for three years: Joseph Perkins, Charles Whittlesey."

After the selection of the above named officers for the government of the society, there were adopted the following by-laws:

"1. This department shall be known as 'The Western Reserve Historical Society,' the principal object of which shall be to discover, procure and preserve whatever relates to the history, biography, genealogy, antiquities and statistics connected with the city of Cleveland and the Western Reserve, and generally what relates to the history of Ohio and the Great West.

"2. The officers of this department shall be a president, three vice-presidents, secretary and treasurer, to be appointed by the curators, who shall hold their offices for two years, and until their successors are appointed, and whose duties shall be such as usually pertain to such offices."

The following persons desiring to become members of the society then signed their names to the constitution and by-laws:

"Charles C. Baldwin, M. B. Scott, Henry A. Smith, Joseph Perkins, Samuel Williamson, Charles Whittlesey,

A. T. Goodman, Harvey Rice, John D. Crehore, George Mygatt, L. E. Holden, H. M. Chapin, C. T. Sherman, Samuel Starkweather, F. M. Backus, D. H. Beardsley, S. V. Willson, Joseph Ireland, G. C. F. Hayne, Jacob H. Smies, J. S. Kingsland, P. H. Babcock."

Twenty-one were they in number, and all in their various professions and occupations men of prominence and merit. Of this number fifteen, at least, have closed their earthly career and the activities of life.

During the first year of the existence of the society several meetings were held at the residences of curators for social and literary intercourse. On Wednesday evening, March 11, 1868, on the call of the president, a meeting was held, when several matters of a business nature received attention. J. C. Buell, secretary, tendered his resignation of such office, to fill which C. C. Baldwin was elected. At this meeting a committee, consisting of the president, Colonel Whittlesey, H. A. Smith and J. D. Cleveland, was appointed to devise the best means of raising funds to furnish the hall of the society, and to expend the means so raised in such manner as they might think best. At the end of the first year, or in May, 1868, the curators, as required by the constitution, made their first annual report to the Cleveland Library association. It gives an intelligent idea of the progress that had been made and of the interest felt and manifested.

The report was written by Curator C. C. Baldwin, and is as follows :

"Possession of the room assigned to this and the reference department, which occupies the entire third floor of the savings bank, was given by the bank on the first of November last. The room seems, in all respects, all that can be desired. The war relics belonging to the Library association are stored there with a few rare and valuable works on history, designated for reference, together with donations of books, maps, pamphlets, manuscripts, news-

papers and curiosities, of which a partial list has been published, with the names of the donors. As yet, means have not been secured to fit up this room with cases, seats, etc., in order to display the articles already accumulated there. The curators are well satisfied that when this is done and the room opened at regular hours, there is abundant material in the city and vicinity which can be gathered in, and it will be an attractive and useful part of the association. There is ample space for all the books of reference, and for a department of mechanical arts and natural science, if the asso ciation wishes it, whenever the proper furniture can be provided. The Historical department has, as yet, no endowment, nor has it collected or disbursed any funds. A plan of endowment was devised and two thousand dollars pledged to it by two gentlemen of this city, on condition that twenty thousand dollars should be raised, of which the savings bank was to be made trustee. The bank declined to assume the trust, and there the matter rests. A committee has also been appointed to solicit a smaller subscription for present use by this department. One of our citizens has expended fifty dollars in copying old and imperfect manuscript, of which about six hundred pages are now transcribed. Contributions of valuable articles, books, relics, portraits, old newspapers and pamphlets are offered almost every day, all of which are carefully stored in the historical rooms. We have reason to hope that, before another year expires, the collection will be properly arranged and an annual income secured for its regular increase. Such collections, when put in order and opened to the public, accumulate with great rapidity. At the close of this first year the records show that there were fifty-nine annual members; corresponding, fifty-one."

The officers for 1868 were: President, Charles Whittlesey; vice-president, M. B. Scott; secretary, C. C. Baldwin; treasurer, A. K. Spencer; curators for one year, E. B. Chamberlin, A. K. Spencer; two years, Samuel Williamson,

J. H. A. Bone; three years, C. T. Sherman, C. C. Baldwin.

During the year meetings were held at various times at the residences of members, when interesting and valuable papers were read and discussions of great benefit took place. Among the subjects considered were, "The Location of Pine Point, the Seat of Major Wilkins' Shipwreck, November, 1763." Mr. Baldwin exhibited a map, Charlevoix's works, 1744, locating this point at the east point of Rondeau, on the Canada shore. "The Evidences of Man's Antiquity in the United States," by Colonel Whittlesey; "The Location of the Iroquois," by C. C. Baldwin. By October, 1868, one hundred and fifty dollars had been appropriated by the "military committee of Cuyahoga county" at the suggestion of Mr. William Bingham, a member of that committee, to secure cases in which to display military relics; and of donations of articles to the museum and library there were from William Bingham one book-case and sofa; also similar articles by William J. Boardman, esq., and a case for minerals from Dr. Theodatus Garlick. A committee had been appointed to solicit memberships and steps taken to procure and issue certificates of same, and the society seemed to be making good, substantial, if not rapid progress. For a year or more weekly meetings were held for "social intercourse" and the transaction of such business as was necessary. At the close of the second year, May, 1869, the president, Colonel Whittlesey, made an interesting annual report, showing the condition of the society at that time and its future prospects. The following is taken from that report:

"Possession of the rooms of our society commenced November 14, 1867. It is ample, fire-proof and without its equal in the city. About the time of our moving into the room, the county commissioners, under authority from the legislature, authorized the Honorable Samuel Williamson to expend five hundred dollars in recovering the papers of the Connecticut Land company. Judge John Barr had procured some of

them many years since which he had placed in my keeping, to which I had added others from time to time. We were able to secure more of the field notes, maps and papers of the company. We hope to secure more from the descendants of the first proprietors, among whom the original field books of the interior surveys of the townships are dispersed.

"We have from various sources procured seven of the earliest manuscript maps of the city of Cleveland, commencing in 1796 and extending to 1806. Their value as historical papers is very great. Of maps of townships and counties, extending to the year 1797, we have about one hundred. Of the early field books we have twenty-four, and quite a number of other papers, books, records and accounts. It is also a part of our purpose to make a complete collection of city, county and state maps, city directories and all gazetteers for the state of Ohio. Of books that relate strictly to our local and state history, we have one hundred and fifty volumes, most of which are extremely rare. We have in manuscript several hundred pages of historical matter. I believe we have all the engraved views of Cleveland hitherto published; also a painting by Joseph Parker taken in 1839 for the late C. M. Giddings, esq., representing the northwest quarter of the Public square at that time, presented by General A. S. Sanford. The relics of the mound-builders, the red men, and of their successors, the white pioneers, accumulate faster than we have conveniences to exhibit them. A large number of minerals, ores, specimens of metals and of fossils are ready for use when we can provide room for them. In the department of natural science we expect the coöperation of the Cleveland academy, which is one of our early institutions, and has already a valuable collection."

At this meeting the election of officers for the ensuing year was as follows: President, Charles Whittlesey; vice-president, M. B. Scott; secretary, A. T. Goodman; treasurer, George A. Stanley.

Some idea of the energies put forth by the early members

in collecting historical manuscripts, maps and field notes, and the results arising, may be had from the following partial list of such collections printed during the third year of the existence of the society:

LISTS OF MANUSCRIPTS IN BINDING.

VOLUME ONE.

	PAGES.
Surveys of Nathan Redfield, June, 1797, Tenth meridian Western Reserve	1–12
Seventh meridian Western Reserve	20–22–23
Surveys of Seth Pease, July, 1797—south line of Western Reserve from 20th to 51st mile	34–36
Field notes of Shephard & Atwater, on the 9th meridian	48–54
Field notes of Shephard & Atwater, on the 5th meridian	55–58
Field notes of Nathan Redfield, on parallel No. 2, June 20, 1797	69–77
Field notes of Shephard & Atwater, on the 5th meridian	78–90
Field notes of Richard M. Stoddard and Amzi Atwater, July, 1797, 6th meridian	92–105
Field notes of Holley, Pease, Stoddard and Redfield, August, 1797, on 8th meridian	106–119
Field notes of Amos Spafford, 1797, on the 12th parallel	123–126
Surveys of Amos Spafford, June, 1797, on 4th parallel	127–136
Surveys of Amos Spafford, June, 1797, on first parallel	137–147
Surveys of Amos Spafford, August 11, on 11th meridian	148–149
Surveys of Amos Spafford, town 5, range 11	150–187
Surveys of Nathan Redfield, September 1, in the Gore, town 6, range 12	188–191
June, 1797, surveys of Moses Warren, 5th parallel	192–199
June, 1797, surveys of Moses Warren, 2d parallel	200–209

PAGES.

Surveys of R. M. Stoddard and Nathan Redfield, town 7, range 10 222–243
Surveys of R. M. Stoddard and Nathan Redfield, town 7, range 9 222–243
Surveys of R. M. Stoddard and Nathan Redfield, town 7, range 8 222–243
Surveys of R. M. Stoddard and Nathan Redfield, town 8, range 8 222–243
Surveys of R. M. Stoddard and Nathan Redfield, town 9, range 8 222–243
Surveys of Richard M. Stoddard, August, 1797, town 1, range 10 245–250–263
Surveys of Nathan Redfield, town 12, range 5, October, 1797 268
Surveys of Joseph Landon, town 12, range 5, October, 1797 269–273
Surveys of R. M. Stoddard, town 13, range 4, October, 1797 275–278
Surveys of R. M. Stoddard, town 13, range 3, October, 1797 280
Surveys of R. M. Stoddard, town 12, range 6, October, 1797 294–296
Surveys of R. M. Stoddard, town 11, range 8, October, 1797 298–300

VOLUME TWO.

BOOK I. PAGES.

Memoranda of Seth Pease at Cleveland, June, 1797 ... 1–7
Magnetic variations on the Reserve 8
Journey up the Cuyahoga, June, 1797 9–12
Memoranda of the eclipse, June 24th, 1797 13–14
Journey eastward on the Salt Spring Trail 15–17
Magnetic variations 18
Surveys on the Salt Spring Tract 19–20
Magnetic variations, July, 1797 22
Names of the parties, July 9th, 1797 23
Comparison of the different compasses and south line Western Reserve 24–26

BOOK 1.	PAGES.
Field notes of south line Western Reserve	27–31
Field notes of south line Western Reserve	35–40
Survey of the Portage path by Moses Warren	41–44
Memoranda of Seth Pease, July and August, 1797	45–49
Length of meridians and parallels	50
Comparisons of variations	51–53
Memoranda August 7th, 11th, 1797	56–58
Memoranda August 20th, 28th, 1797	59–60
Memoranda September 1st to 14th, 1797	61–63
Memoranda September 16th to October 2d, 1797	64–66
Voyage down the lake October 3d to October 8th	67–68
Operations from 10th October to 20th	69–71
Loss of boats and three men	71–72
BOOK 2.	
Field notes of Seth Pease, 1796	1–10
Survey of the 6th parallel by Moses Warren	1–10
Survey of the 8th parallel by Spafford and Stoddard, August 15th, 1796	11–16
Survey of the 9th parallel by John Milton Holley, August 16th, 1796	16–21
Survey on the 7th parallel by Spafford and Stoddard, September, 1796	21–23
Survey on the 4th parallel by Spafford and Stoddard, September, 1796	23–27
Survey on the 11th parallel September 11th to 29th, 1796	23–27
Survey on the hundred acre lots in Cleveland, by John M. Holley, October, 1796	30–38
Survey on city lots in Cleveland by A. Spafford, September, 1796	38–40
Survey on city lots in Cleveland by R. M. Stoddard, September, 1796	40–45
BOOK 3.	
Field Notes of 1796—Surveys of Spafford on 2d meridian, July 1, 1796	1–9
Surveys of John M. Holley on 1st meridian, July and August, 1796	10–19

Book 3. PAGES.
Surveys of Moses Warren on 3d meridian.... 16–24
Surveys of Moses Warren on portions of 9th meridian. 25–29
Surveys of Moses Warren on 9th meridian running south—comparison of variations..... 29
Surveys of J. M. Holley on 8th meridian..... 30
Surveys of J. M. Holley on portions of 11th parallel, September, 1796..... 31
Surveys of J. M. Holley in town 10, range 9, for the purchasers, September and October, 1796..... 31–33
Portion of 12th parallel, May 9th, 1797..... 33–36
Allotment of town 6, range 11, by Shephard and Atwater, September, 1797..... 37–46
Book 4—Contents of the several townships on the Western Reserve, east of the Cuyahoga, by Seth Pease, September, 1798.

VOLUME THREE.

Book 1—Field notes of Shephard and Atwater, Allotment of town 7, range 11, 1797, and field notes of Warham Shepherd, town 8, range 10.
Book 2—Field notes of A. Freese, town 4, range 15 (presented by S. H. Mather).
Book 3—Field notes of town 8, range 2, by J. P. Bissell, October, 1800.
Book 4—Surveys of great lot 2, town 11, range 8, September, 1801, by A. Tappen.
Book 5—Field notes in the town of Chapin, by James A. Harper, November, 1802.
Book 6—Surveys in town 9, range 7, by L. Foot, October, 1801.
Book 7—Field notes of great lot No. 3, town 6, range 9, July, 1801, by Alfred Wolcott.
Book 8—Field notes in town 3, range 13, October 7, 1813, by T. B. Hawley.
Book 9—Surveys of town 11, range 3, without date, by Caleb Palmer.
Book 10—Field notes of town 2, ranges 3 and 4, by A. Wolcott, without date.

Book 11—Field notes of great lot 1, town 13, range 3, by Caleb Palmer, without date.

Book 12—Field notes of town 10, range 9, by Charles Parker, October, 1802.

VOLUME FOUR.

Book 1—Field notes of 1796–97, surveys in town 1, range 10.

Book 2—Field notes of J. M. Holley, presented by Governor A. H. Holley, of one hundred acre lots in Cleveland, September, 1766.

Book 3—Field notes of J. M. Holley, presented by Honorable E. Whittlesey and Governor A. H. Holley. Survey of first meridian, July, 1796; also, ninth parallel, August, 1796. Traverse of the Chagrin river and portion of 7th parallel, September, 1796, with a portion of the 6th meridian. Variation of the compass.

VOLUME FIVE.

Book 1—Field notes of Phineas Barker (presented by Judge Barr), in town 10, range 8, October, 1797.

Book 2—Surveys by R. M. Stoddard, presented by Judge Barr, in town 11, range 8, October, 1797, and in town 12, range 6, town 12, range 4, and town 13, range 3.

Book 3—Surveys of R. M. Stoddard, presented by John Barr, in the hundred acre lots in Cleveland, June, 1797.

Book 4—Field notes of J. Landon, presented by J. Barr, in town 11, range 7, and town 12, range 5, in town 14, range 1, 1797, October.

Book 5—Field notes, by Moses Warren, 1797; portion of second parallel and traverse of Portage path, also 10 acre lots in Cleveland, August, 1797, a copy by S. T. Harris, Portage county.

Book 6—Minutes of explorations in the Fire-lands, 1808, presented by Miss Anna Walworth.

VOLUME SIX.

Book 1—Diary of Seth Pease, from Connecticut to the Western Reserve, 1796, procured by Judge Barr at Suffield, Connecticut.

Book 2—Diary of Seth Pease on return from Canandaigua, 1796.
Book 3—Diary of Seth Pease, 1797.
Book 4—Mems. of Seth Pease, 1799.
Book 5—Mems. of Seth Pease, 1799.
Book 6—Field notes and mems. of Seth Pease in Holland Purchase, 1798.
Book 7—Diary of Seth Pease, Cleveland to Canandaigua, 1796.
Book 8—Diary of Seth Pease, 1799.
Book 9—Diary of Seth Pease in the state of Maine, 1795.
Book 10—Mems. of Seth Pease, 1797, from Chippeway to Cleveland.
Book 11—Diary of Seth Pease on the return from New Connecticut, October and November, 1797.
Book 12—Journal of Seth Pease from Suffield, Connecticut, to Western Reserve, 1797.
Book 13—Field notes without date, apparently by A. Tappen.

VOLUME SEVEN.

Book 1—Mems. of J. M. Holley, from Salisbury, Connecticut, to Little Sodus Bay, April, 1767, donated by Governor A. H. Holley.
Book 2—Same from Ironduquoit to Presque Isle, or Erie, June, 1796.
Book 3—Mems. of J. M. Holley, June, May and July, 1796. Obituary of Major Cuyler, by J. M. Holley, in 1812.
Book 4—Diary of same from Cleveland to Salisbury, Connecticut, October, 1796.
Book 5—Diary of Q. F. Atkins, July, 1804, to May, 1805, presented by Frederick Judson and Rev. M. Tod.
Book 6—Diary of Q. F. Atkins, April and May, 1806, among the Wyandot Indians.
Book 7—Diary of same, among the Wyandot Indians, November, 1806, to August, 1807, presented by Messrs. Tod and Judson.

VOLUME EIGHT.

Book 1—Taxes in Cleveland, December, 1807, from the Walworth Papers.

Book 2—Memoranda of Ephraim Root, 1802–1803, from the Walworth Papers.

Book 3—Memoranda of E. Root, 1801.

Book 4—Memoranda of E. Root, no date.

Book 5—Memoranda of E. Root, 1817, T 4, R 2 (Vienna), & T 4, R 7.

Book 6—Memoranda of E. Root, 1800.

VOLUME NINE.

Book 1—Description of Northeastern Ohio, with a map by John Heckewelder, January, 1796, from the papers of Moses Cleaveland, presented by his son-in-law, S. C. Morgan, Norwich, Connecticut.

Book 2 and 3—Membership and accounts of the first Cleveland library, 1811–1813, from papers of the late Judge Samuel Williamson.

Book 4—Report of the Committee on Drafts of Connecticut Land Company, December, 1802, from the papers of Ephraim Root.

Book 5—Report of the Committee on Drafts of the Connecticut Land Company, January, 1798.

Book 6—Report of the Equalizing Committee of the Connecticut Land Company, January, 1798.

Book 7—Partition of Suffield Township No. 1, Range 9, January 20, 1802, presented by Horace Pease of Dayton, Ohio.

Book 8—Number of lots in Rootstown, Northampton, Vienna and other towns, without date.

Book 9—Portions of Field notes of Joseph Landon, September and October, 1797, in township No. 12, range 5, and township No. 13, range 3.

Book 10—Draft of Conn. Land Co., 1798.

VOLUME TEN.

Book 1—List of contracts and notes given for lands in the Western Reserve, 1803, by Turhand Kirtland.

Book 2—Subdivision of tract 1, town 6, range 8. By Seth I. Ensign, August, 1808.

Book 3—Survey of the west half town 14, range 14, July, 1815. By John Freese.

Book 4—Explorations of lands in the Western Reserve, west of the Cuyahoga river. Report of Turhand Kirtland, E. Austin and Martin Smith, Committee, October, 1806.

Book 5—Survey of part of the town of Bristol, No. 6, range 4. By Alfred Wolcott, 1801.

Book 6—Report of the Committee on Partition, and the drafts of lands west of the Cuyahoga river, February, 1807.

Book 7—Draft of the Conn. Land Co. east of the Cuyahoga, 1798.

VOLUME ELEVEN.

Book 1—Lecture by Judge Barr on the History of Cleveland, 1842.

Book 2—Biography of John Walworth, apparently by his son, A. W. Walworth, without date.

Book 3—Settlement of the Western Reserve, by Edward Paine, without date.

Book 4—Notice of General St. Clair.

Book 5—Southern Boundary of the Western Reserve, by Seth Pease. Survey of 1806. Presented by Alanson Penfield, Esq., Washington City.

Book 6—Letter of John Walworth, July, 1800.

Book 7—Indictment of Lorenzo Carter, 1803.

Book 8—Statement of Allen Gaylord of Newburgh, June, 1858.

Book 9—Deed of Robert, Earl of Warwick, including the Western Reserve, March 19, 1632.

Book 10—Letter of D. C. Doane, December, 1843.

Book 11—Letter of Edward Paine, September, 1843.

Book 12—Letter of Captain Daniel Dobbin, on the early Lake craft, June, 1843.

Book 13—Statement of Q. F. Atkins, June, 1851.

Book 14—Letter of Elias Murray, April, 1852.

Book 15—Speech of Miskouaki, a Chippeway chief, to the Marquis Veaudrieul, and his reply, Montreal, 1706. (From the Cass Manuscripts.)

VOLUME TWELVE.

Journal of Captain Jonathan Heart, Headquarters of the Revolutionary Army, 1782–3; 170 pages.

VOLUME THIRTEEN.

Book 1—Deposition of Leonard Case in the Bath street cases, District Court of the United States, Cleveland, 1858.

Book 2—Deposition of Samuel Williamson in the Bath street cases.

Book 3—Deposition of Madison Kelly, in the Bath street cases, April, 1860.

Book 4—Deposition of James Root of Hartford, Conn., in the Bath street cases, April, 1856.

Book 5—Testimony in the Court of Common Pleas, March Term, 1848, Bath street cases, by Anson Hayden, B. White, Q. F. Atkins, Alfred Kelly, Alonzo Carter, Dr. David Long, Levi Johnson, Leonard Case, James Root, Philo Scovil, Clifford Belden, Samuel Williamson, Selleck Waterbury, Ahaz Merchant, Allen Gaylord, D. Wilkinson, Richard Baily, Jefferson Thomas, Wheeler Bartram and others.

VOLUME FOURTEEN.

Book 1—Communication of Edward Paine, 1843, on the early settlement of the Western Reserve, and of Cleveland.

Book 2—Notice of James S. Clarke by Judge Barr.

Book 3—Statement of Orlando Cutter, August, 1866.

Book 4—Statement of D. H. Beardsley, September, 1858.

Book 5—Jollification at Cleveland on the News of Peace, 1815.

Book 6—Mistake at a Wedding, East Cleveland, 1809.

Book 7—The Shooting of Daniel Diver, Darefield, Portage county, 1807.

Book 8—Statement of J. C. Huntington, Painesville, July, 1851.

Book 9—Statement of Mrs. B. Steadman, Cleveland, June, 1869.

Book 10—Letter of J. C. Huntington, Painesville, 1848.

Book 11—Letter of Gaius Burke, Newburgh.

Book 12—Letter of Thomas Jefferson, April, 1805.
Book 13—Statement of Levi Johnson, September, 1866.
Book 14—Statement of John Blair, September, 1866.
Book 15—Letter of Judge George Tod, Chillicothe, January, 1802.
Book 16—Two Letters of Judge George Tod, Youngstown, February and November, 1802.
Book 17—Letters of John S. Edwards, February and April, 1803.
Book 18—Letter of General Arthur St. Clair, July, 1802.
Book 19—Letters of Uriah Tracy, 1800, 1802.
Book 20—Notice of Senator Stanley Griswold, 1805, 1810.
Book 21—List of families in Cleveland, 1810.
Book 22—Millerism in Cleveland, 1845.
Book 23—Biographical notice of General Simon Perkins.
Book 24—Extracts and letters published in the Newport, R. I., *Mercury*, 1762, 1763, relating to the siege of Detroit, 42 pages.

VOLUME FIFTEEN.

Book 1—Transcripts from the journals of Seth Pease, 1795–9.
Book 2—Survey of the town plat of Warren, Trumbull county, December, 1801.
Book 3—Plat of the same and memoranda, August, 1802.
Book 4—Survey and plat of the Public square, Canfield, Mahoning county, Ohio.
Book 5—Survey of streets and public grounds in Youngstown, 1802.
Book 6—Discrepancies between different surveys in Cleveland, by Leonard Case, without date.
Book 7—Deed of the trustees of the Connecticut Land Company to Samuel Huntington, March 18, 1802.
Book 8—Deed of the trustees of the Connecticut Land Company to Samuel P. Ford, September 28, 1802.
Book 9—Memoranda of deeds and contracts relating to the Bath street cases.
Book 10—Memoranda of the resolutions and city ordinances relating to Bath street.
Book 11—Letters of Amos Spafford to Samuel Huntington, Cleveland, 1801.

Many valuable and interesting manuscripts have been since acquired, among which is a complete transcript of some six hundred pages of the complete collection of the Ashtabula Historical society, organized in July, 1838, and conducted for some years with great success and energy by the Spencers and by the late O. H. Fritch. It numbered among its active members such men as Joshua R. Giddings and R. P. Ranney.

The work of the society in the diffusing of historical matter by print does not appear alone in its own publications. We do not refer to the great use made of the library from time to time by writers for newspapers, magazines and histories.

The enthusiasm of Colonel Whittlesey, excited by the plans for the formation of the society, led to the publication of his 'History of Cleveland,' which appeared almost as soon as the society was born. The remainder of the edition of this valuable chronicle of northeastern Ohio is now owned by the society.

That bright and much lamented secretary of the society Mr. Alfred T. Goodman, wrote a valuable series of the 'Lives of Ohio Governors,' which appeared in newspapers and never in book form, as they should. Mr. Goodman also edited with much and learned introductory and editorial history one of the society's manuscripts, procured for it in London by the late John Lathrop Motley. This valuable volume of one hundred and twenty handsome pages was printed for William Dodge by Messrs. Robert Clarke & Company of Cincinnati, and the remainder is now owned by them. It is entitled, 'Journal of Captain William Trent, from Logstown to Pickawillany, A. D., 1752, now published for the first time, from a copy in the archives of the Western Reserve Historical society, Cleveland, Ohio, together with letters of Governor Robert Dinwiddie. An historical notice of the Miami confederacy of Indians; a sketch of the English post at Pickawillany, with a short biography of Captain Trent, and other papers never before printed.

Edited by Alfred T. Goodman, secretary Western Reserve Historical society, 1871.'

HEART'S JOURNAL.

In 1885 Joel Munsell's Sons of Albany, New York, published the journal of Captain Jonathan Heart, on the march with his company from Connecticut to Fort Pitt, in Pittsburgh, 1785, to which he added the Dickinson–Harmar correspondence of 1784–5, the whole illustrated with notes, and preceded by a biographical sketch of Captain Heart. This was edited by the well-known historical writer, Consul Willshire Butterfield of Madison, Wisconsin, the matter having been furnished by this society, which possesses a copy of the original famous journal.

ST. CLAIR PAPERS.

Some time in 1868 Mr. Goodman, secretary, became aware that there were in existence valuable papers and documents of Major-General Arthur St. Clair, the first governor of the territory northwest of the Ohio. They were found to be in possession of Mr. Robert Graham of Atchison, Kansas, who married a granddaughter of General St. Clair. The society realized the importance of securing to the state and country these papers, and it took immediate action in the matter. A meeting was called, at which the sum of about one hundred dollars was pledged for the expense of making an examination, and, in the event of not being able to make the purchase, to make copies and extracts. At this point in the proceedings Mr. Graham died, and his son, Robert St. Clair Graham, was appointed executor of the estate, and informed Mr. Goodman that the papers had been inventoried and appraised at five thousand dollars. This seemed a large sum for this society to raise, and the aid of the state was sought. Governor Hayes was personally interviewed and his coöperation secured by recommending an appropriation for the purchase.

Meanwhile Mr. Graham had become impatient, and announced his determination to make an immediate disposal of them. He advertised them for sale in Cincinnati and eastern papers, which resulted in a general interest being awakened and of action being taken by eastern historical societies. Officers of this society went to Columbus, urging the necessity and importance of their being secured in the state. One bill after another, making what was considered liberal appropriation, was introduced, but failed to pass both houses of the legislature. Finally both bodies agreed upon a bill, and the object was at last attained. Mr. Goodman at this time records in our records:

"It is, perhaps, unpardonable in me to have referred at such length to this subject, but I thought it would be right and proper that a full history of the negotiations for securing to the state the St. Clair papers should be preserved among the archives of this society, more especially so for the reason that to this society belongs the honor of having taken an active and prominent part in advocating and obtaining the first appropriation ever made by the legislature of Ohio for exclusively historical purposes."

Creditable in the extreme was it to this society. True it is that because of its intelligent and persevering efforts, the general historian, and especially the student of Ohio and northwestern history, can find in nearly every considerable library throughout the land those two large octavo volumes, aggregating nearly thirteen hundred pages—'The Life and Public Services of Arthur St. Clair, Soldier of the Revolutionary War, President of the Continental Congress, and Governor of the Northwestern Territory,' so admirably arranged and so excellently edited by William Henry Smith, esq., and published by Robert Clarke & Company of Cincinnati in 1882.

MARGRY PAPERS.

The most important publication of original matter relating

to the history of the west for many years is the Margry papers, a collection of original documents in the French language, published at Paris, with the help of congress, in seven large volumes. This most valuable collection of papers had been known for years. It belonged to Mr. Pierre Margry, who, by the offices he had held and his taste and learning for many years, had been facilitated in its acquirement. Three of the large volumes relate to the early discoveries in the west, being largely devoted to La Salle.

Mr. Francis Parkman had more knowledge of this collection than any other American, and had matured plans for its publication which were frustrated by the Boston fire.

With Colonel Whittlesey, the president of the Western Reserve Historical society, originated the plan pursued, by which congress subscribed for five hundred copies of the work, which insured the publication—an enterprise warmly aided by O. H. Marshall of Buffalo, and especially by the powerful influence of Mr. Parkman.

The society interested General Garfield and Mr. James Monroe, then in congress. General Garfield was especially active, and some account of the matter in his own words is the preface to Tract No. 20, an address by General Garfield.

Since the death of Colonel Whittlesey was received a warm letter of acknowledgment from Mr. Margry, written without knowledge of his decease, to announce to him, first of any in America, the completion of Mr. Margry's task.

The importance and the history of the undertaking may be gathered from the fourth volume of the 'Narrative and Critical History of America,' on page 242, and also from the address of General Garfield referred to.

A review of the first volume of the book by C. C. Baldwin, then secretary of the society, was published as Tract No. 34 of the publications of this society, in which quite extended translations were made on important topics. It was a laborious work and one of great literary merit as well, on account

of which it received much commendation from scholars throughout the country.

These volumes must give a new stimulus and opportunity for that most delightful form of historical study—original investigation.

THE MUSEUM OF THE HISTORICAL SOCIETY.

On entering the large rooms of the society, occupying the whole of the third floor of the building for the Society for Savings, the first impression conveyed is usually one of surprise at the display. The room is thoroughly filled; near the entrance are the last memorials of our late lamented President, General Garfield, in his lifetime an earnest life member of the society. There rests the dais upon which he rested at the immense funeral ceremony at Cleveland, at its head the portrait then displayed,* and below the famous lines:

Life's race well run,
Life's work well done,
Life's crown well won,
Now comes rest.

The story of the lines will be found in the Society's Tract No. 57. They were translated from the Latin lines:

"Cursus vitæ bene actus,
Opus vitæ omne factum,
Laurus vitæ acquisita,
Mene venit quies,"

paneled in a window upon a lithograph of General Garfield.

The whole of the Latin lines were afterward found and translated into English by a member of the society, before it was found that the Latin was itself a translation from the English and the original lines written by Dr. E. H. Parker of Poughkeepsie, New York.

* Refusing generous offers for this fine portrait, Mr. Ryder, its owner, also a life member, presented it to the society.

The re-translation is so wonderfully like the original that we place them side by side, but the similarity became necessary in using the same metre and necessary short Saxon words:

ORIGINAL.	MR. BAUDER'S RE-TRANSLATION.
Life's race well run, Life's work all done, Life's victory won, Now cometh rest.	Life's race well run, Life's work well done, Life's crown well won, Now comes rest.
Sorrows are o'er, Trials no more— Ship reacheth shore, Now cometh rest.	All troubles o'er, We strive no more— Ship touching shore, Now comes rest.
Faith yields to sight, Day follows night— Jesus gives light, Now cometh rest.	Faith yields to sight, Day conquers night— From Christ comes light, Now comes rest.
We a while wait, But soon or late, Death ope's the gate, Then cometh rest.	Brief time we wait, For soon or late, Death swings the gate, Then comes rest.

Other memorials of General Garfield are wreaths presented by foreign nations for his funeral, and skillfully preserved. That presented in the name of Queen Victoria has an elegant frame carved of British oak, taken from an old bridge built and opened to commemorate the battle of Waterloo, and presented by the Sons of St. George of Cleveland.

Around the walls are portraits, views, old maps, and other articles too numerous to mention. There is a fine oil portrait, by Miss Ransom, of Colonel Whittlesey, to whom the society is so much indebted. Also an original oil portrait of J. R. Giddings, by the late Alonzo Pease. One can see how the Cleveland Grays and the Public square appeared in 1839. The residents of Toledo can see how that city appeared in 1812, in a graphic painting owned by Judge Baldwin. The descendants of pioneers will find many photo-

graphs. The student will find a fac-simile of the famous Rosetta stone, which solved the enigmas of Egypt's hieroglyphics. There are a valuable and very fine series of models of the cliff cities of the southwest, with Montezuma's well and the National park.

Other fine models are there, by Mr. Herkomer and Dr. Sterling of Cleveland; Inscription rock at Kelley's Island, and other curious matters.

The collections of flints, stone knives, hammers, badge-wands, pipes and pottery of ancient man are very large.

Here are the relics of the early copper miners, including what is, perhaps, the only tool of wood left of these old worthies, an original wooden shovel, a cut of which appears in the Smithsonian publication of Colonel Whittlesey's work on ancient mining in Lake Superior. The ancient pottery covers—vases from Lake Superior, many from the more central parts of the Mississippi valley, and fac-similes presented by Ex-President Hayes, as well as a fine collection of fac-similes of the Pueblo pottery collected by the governmental expedition, and presented by the late Leonard Case.

A large and fine collection, showing what one may do, is the "D. C. Baldwin collection," presented, case and contents, by Mr. D. C. Baldwin of Elyria, who was largely assisted in its collection by Mr. John E. Cole, now of Santa Fé, New Mexico.

It contains many things found in Lorain county, including a fine vase from the vicinity of a shelter cave, and many rare finds in bone. A beautiful quartz knife is so transparent that print is readily read through it. Other bone implements are from imperial Rome and beautifully cut, while very rude are remains from the lake dwellings of Switzerland.

Masonic gentlemen may look with interest upon a pipe tomahawk of iron, inlaid with silver Masonic emblems. Other silver emblems are let into the restored handle. On the end is inserted "Captain Charlo." The whole was found in a mound in Lucas county.

Who was Captain Charlo, who undoubtedly owned this pipe more than a century ago, and who finally rested his bones and his pipe in a mound?

One incident attaching to the Elyria case is the many relics from a few localities, so that the student can get good knowledge of the finds of the localities.

This interest attaches still more to the large, though not showy, collection of things made by Henry N. Johnson, esq., at Kelley's Island, and presented by him to the society, and which, when the society has more room, deserves separate and clear display in the manner of the National Museum of Washington.

The names of a large number of donors will be found on the various articles exhibited.

Interesting are the old gunstocks and barrels, bayonets, the surgeon's knife and the silver spoon marked I. C., relics of the unfortunate march of Colonel Bradstreet in 1764. The rusted surgeon's knife is not so sharp as those of flint from Ohio, and of obsidian from Mexico, not far off.

At the left of the entrance, in a high wall case, is the collection of antiques and eastern curiosities donated by the well-known author of 'Arabistan,' Colonel W. P. Fogg, and named from him the "Fogg Collection." It is described by him in Tract No. 24, entitled, "Donations by W. P. Fogg."

There are eastern and ancient idols; images of Venus, once more handsome than now; an ancient wine jar, taken from the bottom of the Ægean sea with sponges adhering to it. The jar may have been there for the whole of the Christian era, and is certainly in form like those in use in *Anno Domini*. There are silks and vases, fans and shades—curious things, the names of which are only known to the learned. There is a seal and amulet from the mummies, translated by the late George Smith; and what will interest all, a brick from Babylon made in the time of Nebuchadnezzar, as proved by its name and titles thereon.

But we cannot enumerate. In one case will be found a

massive meteor, which fell in Muskingum county of this state.*

There are many war relics, a torpedo from Charleston harbor, and wonders of all kinds of interest to old soldiers.

The coin collection is large and was partly described in Tract No. 45, written by Mr. Johnson, for many years chairman of the coin committee.

There will be found coins ancient and modern—Assyrian, Roman, mediæval and early state American—from the Pine Tree shilling down to the coins of 1887.

A valuable accession to this department came under the will of the late Henry Goodman and was handed over to the society not long since by his executor, Mr. John G. White.

A fine set of casts of the Napoleon medals was presented by the late Dr. Garlick. These are carefully put up in boxes.†

LIBRARY.

To give any adequate description of the library is too large a task. For over twenty years it has been selected to satisfy the student of history and tell him things such as other libraries could not. If he wants prehistoric man, Colonel Whittlesey was a high original authority, and the collection

* It fell near the village of Concord, about noon, on the last of May, 1860. It was secured by Mr. J. Grummen immediately after its fall. It is the fourth fragment of that meteor in the order of weight. The other large ones were purchased by Marietta college, another by Yale, and a third by the medical college of Louisville, Kentucky. As it approached the earth its brilliancy was almost equal to that of the sun.

† Among other things of historic interest belonging to the society is the large gun, a thirty-two pounder, in the northeast quarter of the Public square, captured by Commodore Perry in the naval action on Lake Erie, September 10, 1813. It was donated by Foot, Moore & Company of Detroit, in June, 1872, and, through the efforts of Dr. E. Sterling, transported free of expense to us by the commissioners of public grounds of Cleveland.

of early and late books on that subject is full and well selected.

The discoveries are represented by many original and reprinted books, in English, French, Dutch and Spanish.

The collection of early foreign books on America is unusually full.

The early travelers, Indian adventures, wars, are all there, early and late; the general history of the United States, its settlement, wars, union and disunion, statesmanship and biographies. The department of biography is especially full of Ohio.

Then there are the county histories and atlases; hundreds and hundreds of volumes of newspapers, early and late.

The society has something of a collection of books on the late war, but not as full as it should be. The heroes of the late "unpleasantness" have been careless of their history.

It is impossible to describe a library like this, so great is the individuality in the contents of a special library carefully selected from two continents for many years. There are many rare and valuable books. Mr. Case paid sixteen dollars for a single pamphlet for its shelves, and the society sold for thirty dollars a single twelve-mo. duplicate.

The publications of the state of Ohio are very full and have had the careful attention of Honorable R. M. Stimson of Marietta, formerly the state librarian.

Often are there people in the library from the various counties of the state, who are almost always substantially helped. Does one wish to know of his own personal ancestors? Nowhere in the state is there so good a chance.

The department of genealogy has cost very little money, but is quite a library. Mr. C. O. Scott donated the 'Genealogical Register,' complete until the decease of his father; the present president, nine volumes, so that there is to be found the only complete copy of the 'Register' in a public library in Cleveland. The late Joseph Perkins donated Mr. Savage's 'Genealogical Dictionary,' worth,

when he presented it, forty dollars. Many genealogies have been obtained by donations from the present president, Judge Baldwin, who acquired them by exchange for his own books or by purchase.

There have been many other donors to this department, for the genealogist has a kindly disposition, so that whether one wishes to know what the solemn old worthies of New England, or of the Revolution did, what did congress or the Nation, what did the people of his own state, or what or how did his own great-great-great-grandfather, he is pretty sure to get his information.

It is, however, to Ohio, its peoples, its territory and its history, that the society has specially given its attention. And indeed it has commenced at the beginning of that history.

The ancient enormous sheet of ice that extended over the vast north crossed Ohio, and so marked its agriculture, its lands and its life that an adept can easily find the line.

The friends of the society paid the expenses of that eminent scientist, a life member of the society, Dr. G. F. Wright of Oberlin, in locating the line of the divide on every man's farm which it crossed.

Man then lived in Ohio as lived glacial man in Europe.

One of the publications of the society was Professor Wright's book, with maps not only of states but of each county which it crossed. The book was of so much interest that a synopsis of it was published by the state and a reprint by the neighboring state of Pennsylvania.

The work was appreciated at Washington, and Professor Wright has spent his leisure time for some years since in the service of the United States geological survey, fixing the shores of the ancient lake which covered the whole Valley of the Ohio to Cincinnati, where was the ice dam over five hundred feet in height, and in other investigations.

The library contains about seven thousand five hundred volumes of bound books, ten thousand pamphlets and four hundred magazines unbound.

NEWSPAPER FILES.

The bound volumes of newspapers number one thousand and fifty-six. We have on deposit the *Herald* and *Plain Dealer* of this city from the origin of those papers, the former in 1819, the latter in our files since 1842. A very valuable collection in this line is a complete set, to 1870, of the *Western Reserve Chronicle*, embracing thirty-seven volumes, a gift from the late Joseph Perkins. The *Chronicle* was a continuation of the *Trump of Fame*, a paper started in Trumbull county during the War of 1812 by Thomas D. Webb. A file of the latter was also presented by Mr. Perkins, which, with the *Chronicle*, gives a complete local history of Trumbull county from 1812 to the date above mentioned. Probably another similar collection cannot be found on the Reserve. We also have, through recent purchase complete volumes of the New York *Herald* during that interesting period in the Nation's history, the War of the Rebellion. The historian, Macaulay, said: "The only true and correct history of a country can be learned from its newspapers."

The publications of this society are called tracts, of which the seventy-third is now being printed—an illustrated book upon the archæology of Ohio by Professor M. C. Read of Hudson, Ohio.

The early tracts though valuable in matter are plain in form. The series was the result of natural growth and the help of the newspapers. Many of them were struck off in double column from the type used in printing the same matter in the daily journals, and it is to the generosity of the newspapers of Cleveland that many of them owe their existence.

In that manner much valuable matter has been preserved at very small expense.

In this manner were tracts furnished by the *Herald*, *Plain Dealer* and especially by the Cleveland *Leader*, which in its

earlier and most needy days dealt especially kindly with the Historical society.

All these papers also have united in getting as complete sets as can be of their files for the society.

Although the printing on poor paper with type from the journal has ceased, the title tracts still remain, and the student of Ohio history could not well afford to lose the unpretentious "tracts." These earlier tracts contained much of the most valuable writings of Colonel Whittlesey, the first president, who cared little for fine paper or handsome type, but who was an encyclopedia of rare information.

Of these publications, nine relate to the War of 1812, and were edited by Colonel Whittlesey.

Quite a number of these tracts were published for the society by various friends, among whom may be mentioned the late Leonard Case, Judge Baldwin, Mr. W. J. Boardman, Judge Griswold and W. P. Fogg.

EXCHANGES.

We have on our exchange list nearly all the principal societies in America, as well as some foreign societies; likewise individuals, from whom we receive in exchange for our publications and duplicates that we may have, much valuable matter. In September, 1872, we received, through the Smithsonian Institute at Washington, a request to lend our aid in filling up the large and ancient library at Strasbourg, in Alsace, which was nearly destroyed during the siege. A large box was sent, which was cordially received and gratefully acknowledged. Thus were we able, without impairing our own usefulness, from our surplus, to render assistance to a deserving institution in the old world.

MAPS.

The society is fortunate in having made a splendid collection of maps, numbering over eight hundred, a collection

probably not excelled in the west. There are a large number of rare and valuable early books of discovery, travel and history, many of which were selected in Paris and Amsterdam by Judge Baldwin, while some were purchased abroad and presented by Mr. Rufus K. Winslow and his brother, the late Nathan C. Winslow. We have maps of a very large number of the townships on the Reserve, which have been carefully pasted upon muslin and bound in an immense folio volume. Most of these could not be duplicated at any price, being the originals made by the surveyors for the Connecticut Land company. The early maps of Cleveland and vicinity are very frequently consulted by attorneys to determine and settle the early title to the land.

AUTOGRAPHS.

The collection of autographic memorials of distinguished men is large and numbers many interesting specimens of chirography, among which are those of Governor Samuel Huntington, John Adams, John Heckewelder, James Madison, James Monroe, John Quincy Adams, Andrew Jackson, Albert Gallatin, Henry Clay, Daniel Webster, Abraham Lincoln, Salmon P. Chase and James A. Garfield.

The society needs more room. To satisfactorily exhibit and place for utility and convenience what we now have, requires at least four times the amount of space now used. From this statement the reader will conclude that the society has "grown"—accumulated rapidly. Indeed, its growth is remarkable, and one might even say phenomenal, when it is considered that it has never received any pecuniary aid from the state or city, but has depended for support solely upon its members and friends. Many of the successful organizations of a like character throughout the country have the aid of the public treasury for the supplying of their needs, but no such fortune has befallen this one. That it should have won the high standing it enjoys, have accumulated so large and

valuable a museum and library, and sent forth the publications that bear its name, speak volumes for the energy, liberality and unselfish devotion of those who have had its interests at heart. And yet its founders did not "build better than they knew." They laid foundations deep and broad. The structure has risen with strong and steady pace; it is not inharmonious or unsymmetrical of proportion. It is hoped that somebody, with large heart and purse, recognizing our merit and remembering that we are one of Cleveland's most worthy and deserving institutions, will come forward and "lay the topmost stone."

MEMBERSHIP.

The membership of the society at the present time is: Patrons,* five; annual members, one hundred and seven; life members, seventy-four; corresponding members, seventy-seven; and honorary members, five.

The present officers are: President, C. C. Baldwin; vice-presidents, D. W. Cross, W. P. Fogg, J. H. Sargent, Sam Briggs; elective curators, C. C. Baldwin, Rutherford B. Hayes, Stiles H. Curtiss; to May, 1890, Douglas Perkins, P. H. Babcock; to May, 1888, Levi F. Bauder, Peter Hitchcock, Henry N. Johnson; trustees of invested funds, Honorable William Bingham, Honorable R. P. Ranney, Honorable C. C. Baldwin; *ex-officio* curators, William J. Boardman, William Bingham, James Barnett, George A. Tisdale; secretary, D. W. Manchester; treasurer, John B. French; librarian, D. W. Manchester.

Mention should be made of the following persons who have been librarians of the society: Mrs. Miranda Milford, Miss C. M. Seymour, Miss E. S. Dockstader, Mrs. J. C. Schermerhorn, Mr. H. N. Johnson, Mr. C. E. Wheeler, Mr. D.

*A patron is one whose cash donations have amounted to at least five hundred dollars. Annual memberships are five dollars each. Life memberships are one hundred dollars each.

Holmes, all faithful and useful; especially have the services of Mr. Johnson been of incalculable benefit to the society in a great variety of ways.

Colonel Charles Whittlesey, the first president, had most excellent qualifications for the position, and gave to its duties great zeal and efficiency. He was able to devote nearly his entire time to its interests, and its success and usefulness are largely due to him. He died in October, 1886.* Said Judge Baldwin in his memoir of Colonel Whittlesey: "By his learning, constant devotion without compensation from that time (1867) to his death, his value as inspiring confidence in the public, his wide acquaintance through the state, he has accomplished a wonderful result." In November following, Judge Baldwin was elected to the presidency.

D. W. MANCHESTER.

* This society, in the resolutions passed by it in October, 1886, on the death of Colonel Whittlesey, requested Judge Baldwin to prepare a memorial. It has been published as Tract No. 68, and also appeared in the February, 1887, number of the Magazine of Western History. It is an elaborate and truthful sketch of an active life and worthy man.

TRACT NO. 75,
WESTERN RESERVE HISTORICAL SOCIETY,
CLEVELAND, OHIO.

DISCOVERY

—OF A—

PALÆOLITHIC IMPLEMENT,

—AT—

NEW COMERSTOWN, OHIO.

REPORT AT A MEETING OF THE WESTERN RESERVE HISTORICAL SOCIETY, HELD DECEMBER 12, 1890, BY

MR. W. C. MILLS

—AND—

PROF. G. FREDERICK WRIGHT, LL.D

Leader Print, Cleveland, Ohio.

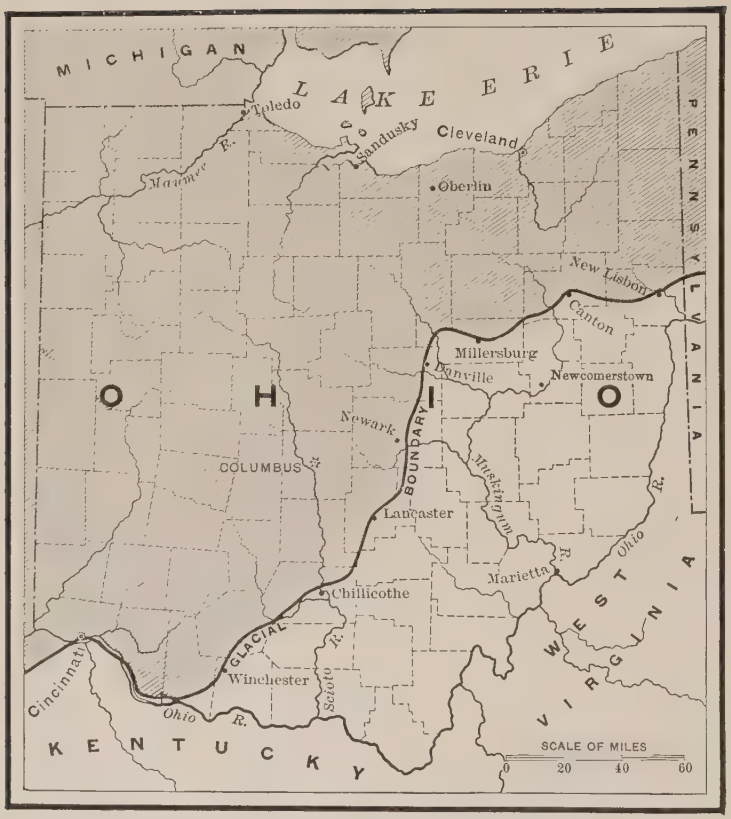


PLATE A.—Shows, in the shaded portion, the glaciated area of Ohio and the relation of New Comerstown and the Tuscarawas Valley to this area. (From Wright's "Ice Age in North America.")

ACCOUNT OF DISCOVERY BY MR. W. C. MILLS.

At the request of Prof. G. F. Wright I have prepared this brief account of the palæolith, which I have here for your consideration, discovered in the terrace gravels at New Comerstown, Tuscarawas County, Ohio.

New Comerstown is a small village of 1,500 inhabitants, situated on the right bank of the Tuscarawas River, about 90 miles west of Pittsburgh and 100 miles south of Cleveland, and near the confluence of the Tuscarawas and a small stream known as Buckhorn Creek and from 30 to 35 miles south of the glacial boundary, which extends into the northern part of the county in Wayne Township. [*See Plate A.*]

In the northern part of the town and within its corporate limits is a large gravel terrace, deposited in a recess near the mouth of Buckhorn Creek and derived from the northern drift. For several years past the Cleveland and Marietta Railroad Company have been taking out this gravel in large quantities, which they have used in ballasting their railroad, and so have kept the gravel exposed to the depth of about 25 feet. The top of the terrace is about 35 feet above the flood plain of the Tuscarawas and extends up the Buckhorn about a quarter of a mile, gradually diminishing in height as it recedes from the main line of deposition.

In this gravel bank, on the 27th day of October, 1889, while examining the different strata of gravel, I found the specimen that you have before you, 15 feet from the surface of the terrace. The bank was almost perpendicular at this time exposing a front of about 20 feet. The small part of the bank was in place in the side of the terrace, until I struck it with my walking cane, when a space of about 6 feet in length by 2 feet in height tumbled down, exposing to view the specimen.

At first sight I recognized the peculiar shape and glossy appearance of the specimen, such as were characteristic of palæolithic specimens described to me by Prof. Edward Orton, while I was a student at the Ohio State University.

I at once compared the specimen with other flint implements which I had collected in this valley, which at present number upwards of 3,000 chipped specimens of flint found on the surface and in mounds, and I found that I had none that resembled it. I communicated these facts to Mr. A. A. Graham, Secretary of the Ohio Archæological and Historical Society. Mr. Graham sent the specimen to Prof. Wright, who wrote me for a detailed account of the circumstances connected with the find, which I furnished him, at the same time inviting him to visit New Comerstown and satisfy himself in reference to my statements. I will leave him to tell the rest of the story.

PLATE B.—Shows a typical section of the glacial terraces in the streams of Central and Southern Ohio. This is near Granville, Licking County, but is so similar to that at New Comerstown that it is unnecessary to duplicate illustrations. (From Wright's "Ice Age in North America.")

Paper by PROFESSOR GEORGE FREDERICK WRIGHT.

In the latter part of March, the implement forming the principal theme of our discussion to-night was sent to me from the discoverer, Mr. W. C. Mills, Secretary of the Archæological Society of New Comerstown, and I at once recognized its striking resemblance to the palæolithic implements discovered in the valley of the Somme, Northern France, a specimen of which I am able to show you side by side with this from our own State. As is to be expected, however, the material from which the implement is made is of local origin, and differs much in appearance from that of the French implement. Upon showing this specimen from New Comerstown to my associate, Professor Albert A. Wright, who did much work upon the State Geological Survey in Holmes county, immediately adjoining Tuscarawas, he at once recognized the material as a black flint, or chert, which occurs with much frequency in the "Lower Mercer" limestone strata, an exposure of which passes through the eastern part of Holmes county, and he was able at once to go to his drawer and produce the accompanying specimen, which he brought home from that vicinity several years ago. On comparing Mr. Mills' palæolith with this specimen, even the most unpracticed eye will see at once the identity of the material. It is needless to say that this identity gives strong circumstantial support to Mr. Mills' testimony. For a description of the flint see Geological Survey of Ohio (Economic Geology), Vol. v. pp. 13 and 819. Mr. Mills has since discovered the rock about five miles west of New Comerstown. [*See Plate B.*]

From Mr. Mills' description of the locality in which he found the implement, I was confident that it was in one of the numerous glacial terraces which I had already described in my report to this society upon "The Glacial Boundary in Ohio, Indiana, and Kentucky," published in 1884. To make the matter sure, a party, consisting of Judge C. C. Baldwin,

E. A. Angell, Esq., William E. Cushing, Esq., Mr. David Baldwin, of Elyria, and myself, visited the locality on the 11th of April, 1890. The following results of this trip I communicated to the *New York Nation* as published in their number for April 24th, 1890.

Palæolithic Man in Ohio.

OBERLIN, O., April 14, 1890.

Two or three weeks ago, Mr. W. C. Mills, Secretary of the Archæological Society of New Comerstown, Tuscarawas County, Ohio, sent me a flint implement which, according to his description, seemed to have been found in the undisturbed gravel of the glacial terrace which everywhere lines the valley of the Tuscarawas River. In order the more fully to judge of the significance of the discovery, I visited the locality last week together with a small party of Cleveland gentlemen. The result of the investigation cannot fail to be of considerable public interest.

The flint implement referred to is a perfect representative of the palæolithic type found in northern France and southern England. It is four inches long, two inches wide, and an inch and a half through at its larger end, tapering gradually to a point and carefully chipped to an edge all around. Fig. 472 in Evans's 'Ancient Stone Implements of Great Britain' would pass for a very good representation of it. The material is black flint, or chert, such as occurs in the "Lower Mercer" limestone strata not many miles away, and has upon all the surface that peculiar glazed appearance which indicates considerable age. [*See Plates C and D.*]

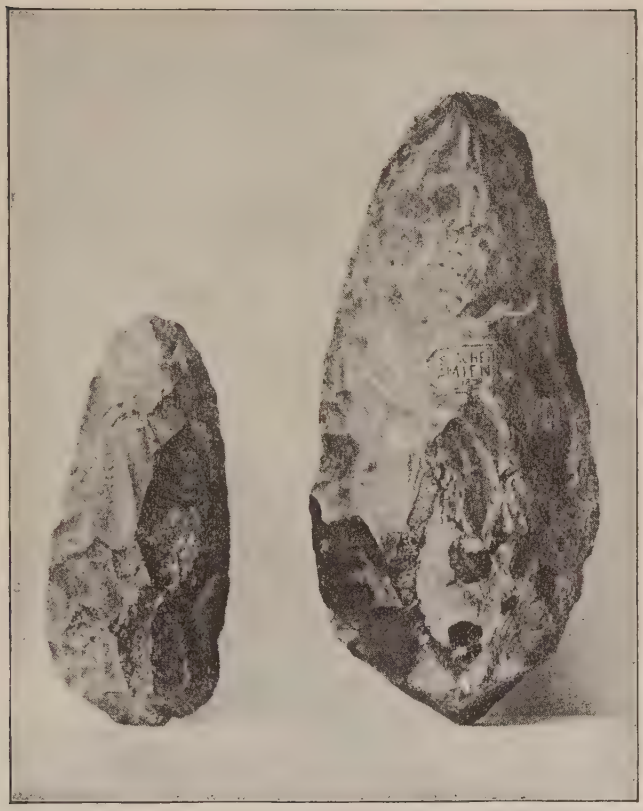


PLATE C.—Shows the New Comerstown implement side by side with a larger specimen from Amiens, France, which came to Prof. Wright through Prof. Asa Gray directly from Dr. Evans, of London. The illustration is produced by mechanical process from a photograph, and is reduced one-half in diameter.

PLATE D.—Presents an edge view of the preceding.

New Comerstown is situated upon the right bank of the Tuscarawas River, about one hundred miles directly south of Cleveland and forty miles south of the glacial boundary in Ohio. The latter part of the journey from the north to reach the place is so complete a demonstration of the now accepted theory concerning the origin of the terraces along this river, and others similarly situated, that a brief description of it will be profitable.

The headwaters both of the Tuscarawas itself and of the several branches which unite with it before reaching Canal Dover are all within the glaciated area, thus affording access to an unlimited quantity of debris brought by the continental ice-sheet from the Laurentian region in Canada. Immediately below the glacial boundary, all these streams are bordered with extensive terraces, the material of which consists of assorted matter from the glacial drift such as would naturally have been carried down during the closing floods of the glacial period.

From Canal Dover to New Comerstown the Tuscarawas River makes a long bend to the east, but the railroad cuts across the elbow, and for twenty miles or more finds its way through two small valleys tributary to the main line of drainage. The course of the railroad first strikes up the valley of Stone Creek, following it for several miles. But no sooner does it enter this tributary valley than it leaves behind the terraces and other gravel deposits which mark the main valley and every tributary further north. At length the road, after passing through a tunnel, strikes into the headwaters of Buckhorn Creek, which runs southward to join the Tuscarawas at New Comerstown. Here, too, for several miles, there is a total absence of terraces or of any

deposits of gravel. On approaching the mouth of the creek, however, a vast gravel deposit derived from the northern drift is encountered, in which the railroad company is making extensive excavations to get material for ballasting their track. Thus, in this short journey, there was demonstrated before our eyes the limitation of these peculiar gravel deposits to the main valley of the river, and so, by consequence, their glacial age and origin.

It was in this last-named gravel-bank, on the 27th of October, 1889, that Mr. Mills found the palæolith above described. The surface of the terrace is at this point thirty-five feet above the flood-plain of the Tuscarawas. The valley of the river is about a mile wide. This gravel has been deposited in a recess at the mouth of Buckhorn Creek, where it was protected from subsequent erosion, and extended up the creek about a quarter of a mile, but, according to the law of such deposits, with gradually diminishing height as one recedes from the main line of deposition. The implement was found by Mr. Mills himself, in undisturbed strata, fifteen feet below the surface of the terrace; thus connecting it, beyond question, with the period when the terrace itself was in process of deposition, and adding another witness to the fact that man was in the valley of the Mississippi while the ice of the glacial period still lingered over a large part of its northern area.

The importance of this discovery is enhanced by the fact that this is the fifth locality in which similar discoveries have been made in this country, the other places being Trenton, N. J.; Madisonville, O.; Medora, Ind., and Little Falls, Minn. But in many respects this is the most interesting of them all, especially as connected with previous predictions

of my own in the matter, though it is proper to say that Mr. Mills was not, at the time he made the discovery, aware of what had been written upon the subject.

When, in 1882, after having surveyed the glacial boundary across Pennsylvania, I continued a similar work in Ohio, I was at once struck with the similarity of the conditions in the various streams in Ohio flowing out of the glaciated region (and especially in the Tuscarawas River), to those in the Delaware River, where Dr. C. C. Abbott had reported the discovery of palæolithic implements at Trenton, N. J. Attention was called to this similarity in various periodicals at the time, as well as in my report upon the Glacial Boundary made to the Western Reserve Historical Society in 1883 (pp. 26, 27), where it was said that the Ohio abounds in streams situated similarly to the Delaware with reference to glacial terraces, and that "the probability is that if he [man] was in New Jersey at that time [during the deposition of the glacial terraces], he was upon the banks of the Ohio, and the extensive terrace and gravel deposits in the southern part of the State should be closely scanned by archæologists. When observers become familiar with the rude form of these palæolithic implements, they will doubtless find them in abundance." Whereupon a dozen streams, among them the Tuscarawas, were mentioned in which the conditions were favorable for such investigations. The present discovery, therefore, coming as it does in addition to those of Dr. Metz in the Little Miami Valley and of Mr. Cresson in the valley of White River, Ind., has great cumulative weight, and forces, even on the most unwilling, the conviction that glacial man on this continent is not a myth, but a reality.

A glance at the physical feature of the region in Ohio and

Indiana where these palæoliths have been found, shows their eminent adaptation to the primitive conditions of life indicated by the implements themselves. The Tuscarawas valley has been formed by erosion through the parallel strata of sandstone and limestone here composing the coal formation. The summits of the hills on either side rise to heights of from 300 to 500 feet, and their perpendicular faces abound even now with commodious shelters for primitive man. But in pre-glacial times the trough of the Tuscarawas was 175 feet deeper than at present, that amount of glacial gravel having been deposited along the bottom, thus raising it to its present level. Hence in pre-glacial times the opportunities for shelter must have been much superior even to those which are now in existence. The present forests of the region consist of beech, oak, tulip, maple, and other deciduous trees. Evergreens are now totally absent, but the advancing ice of the glacial period found here vast forests of evergreen trees. Not many miles distant, terraces of the same age with this at New Comerstown have, within recent years, yielded great quantities of red cedar logs, still so fresh as to be manufactured into utensils for household use.

The relation of glacial man to the mound-builders is so often made a subject of inquiry that a brief answer will here be in place. The above relic of man's occupancy of Ohio was found *in* the glacial terrace, and belongs to a race living in that distant period when the ice-front was not far north of them, and when the terraces were in *process of deposition*. Thus this race is unquestionably linked with the great ice age. The mound-builders came into the region at a much later date, and reared their imposing structures *upon the surface* of these terraces, when the settled conditions of the

present time had been attained, and there is nothing to show that their occupancy began more that one or two thousand years since, while their implements and other works of art are of an entirely different type from the rude relics of the palæolithic age. If, therefore, interest in a work of art is in proportion to its antiquity, this single implement from New Comerstown, together with the few others found in similar conditions, must be ranked among the most interesting in the world, and will do much to render North America a field of archæological research second to no other in importance.

G. Frederick Wright.

Soon after receiving the implement, and with Mr. Mills' permission, I forwarded it for examination, in the absence of Professor Putnam, to Professor Henry W. Haynes, of Boston, who has one of the largest collections of palæoliths in the country, and who, as an expert, in this class of questions ranks as of the very highest authority. At a meeting of the Boston Society of Natural History on May 7th, he exhibited the implement, expressing his belief in its antiquity in the report, which I append,

Read before the Boston Society of Natural History, Wednesday, May 7, 1890.

At a meeting of this Society on March 7, 1883, Professor George Frederick Wright, of Oberlin, Ohio, described and illustrated by means of a large map the line of the terminal moraine, which marks the limits of glacial action in Ohio, extending from a point upon the borders of Pennsylvania, northwesterly to those of Kentucky, a little east of Cincinnati. After commenting upon the similarity of the extensive gravel and terrace deposits of Southern Ohio to those of the Delaware Valley, near Trenton, N. J., in which Dr. C. C.

Abbott first discovered the well-known palæolithic implements made of the argillite of that region, Professor Wright predicted that similar discoveries of palæolithic implements would be made in the gravel-beds of rivers in Ohio flowing out of the glaciated region, if proper search were made for them. It will be recollected that this prediction met with a speedy fulfilment, and that Professor F. W. Putnam exhibited at a meeting of this Society on November 4, 1885, such an implement, which had been found by Dr. C. L. Metz, at a depth of eight feet below the surface, in the gravel beds of the Little Miami River, at Madisonville, and was made of black chert, and was of the same material, size and shape as one found by Dr. Abbott in the Trenton gravels. In the spring of 1887 Dr. Metz discovered another palæolithic implement in the gravels of the Little Miami, near Loveland, at the depth of some thirty feet below the surface.

I have now to exhibit a third implement of the same character, discovered by Mr. W. C. Mills, October 27, 1889, in undisturbed strata fifteen feet below the surface, in a glacial terrace of the Tuscarawas River, at New Comerstown. The valley of the Tuscarawas is one to which particular attention had been directed by Professor Wright as presenting specially favorable conditions for such discoveries; and he has just given a detailed account of the physical character of the locality of the discovery in a letter to the *New York Nation*, April 24, 1890.

Prof. Wright has requested me to bring this new evidence of the existence of palæolithic man in North America to the consideration of this Society, and at the same time to express my opinion in regard to the genuineness and age of the object in question. I have accordingly brought here for comparison some half a dozen palæolithic implements from my own collection, all coming from the classic locality in France of St. Acheul, near Amiens, in the valley of the Somme. Two of them were given to me by Dr. John Evans, the eminent author of *The Ancient Stone Implements of Great Britain.*

The others I procured myself at St. Acheul, where I had come without any previous notice, and where I saw two similar implements taken from the gravel by laborers employed in sifting it for ballast. At the same time I procured one of the best examples I have ever seen of the forgeries of similar implements, for which that country has obtained an undesirable notoriety. This I have also brought here for comparison, together with a genuine specimen found by me in 1874 in a gravel pit at Levallois, just outside of Paris. I have brought also two specimens from England, given to me by Dr. Evans, one from Wangford, on the Suffolk side of the valley of the Little Ouse, the other from lower down the same valley, at Shrub Hill, Feltwell, Norfolk.

It will be apparent upon careful examination and comparison that this implement from New Comerstown exhibits one of the recognized tests of genuineness applicable to such objects. As it is made of the black chert, occurring in the "Lower Mercer" limestone of the vicinity, it does not possess the fine, compact grain of the flint from the chalk, in France and England, but it plainly displays what Dr. Evans describes as the "glossiness of surface * * which appears to be partly due to mechanical and partly to chemical causes" (p. 575), and which characterizes genuine implements found in the beds of River Drift. All these European specimens, besides this glossiness, show a peculiar structural alteration of the surface (technically known as the *patina*), due to the infiltration of water, which has partially dissolved the substance of the flint. Although this is wanting in the New Comerstown specimen, it will readily be seen how different is its glossy appearance from the dull, lustreless hue which freshly broken flint exhibits, as is shown by the forgery from St. Acheul. It will be found also that the genuine implements give to the touch a waxy or greasy sensation, differing sensibly from the raw feeling of the surface of the forgery.

I desire, therefore, to express most emphatically my belief in the genuineness and age of this New Comerstown imple-

ment, as well as to call attention to the close resemblance in all particulars which it bears to these unquestioned palæolithic implements of the Old World, and to the additional light it sheds upon the question of the antiquity of man in North America.

TRACT No. 76.
WESTERN RESERVE HISTORICAL SOCIETY,
CLEVELAND OHIO.

ABSTRACT OF LECTURE

—UPON—

The Ancient Earthworks of Ohio,

—DELIVERED BY—

PROF. F. W. PUTNAM,

OF HARVARD UNIVERSITY.

BEFORE THE WESTERN RESERVE HISTORICAL SOCIETY, OF CLEVELAND, OHIO, OCTOBER 25th, 1887.

REPORTED BY

PROF. G. FREDERICK WRIGHT.

THE ANCIENT OHIO MOUNDS.

I.—Importance of the Study.

The proper study of history begins with the earliest monuments of man's occupancy of the earth. We are in great danger of exaggerating the accuracy and completeness of written history. At the best it is but fragmentary, and distorted by the ignorance and prejudice, if not the mendacity, of the writers. From study of ancient implements, burial-places, village-sites, roads, sacred enclosures, and monuments, we are able to get as vivid and correct a conception (all but the names) of pre-historic times as of what is called the historic period.

II.—Method of Procedure.

The study of archæology is now assuming new importance from the improved methods of procedure. Formerly it was thought sufficient to arrange archæological ornaments and implements according to size and perfection of workmanship, and call it a collection. But, now, extended and minute comparison is the principal thing. Formerly, mounds were said to have been explored when trenches had been dug through them in two directions, and the contents thus encountered removed and inspected. Now it is considered essential to the exploration of a mound that it be sliced off with the greatest care and every shovelful of earth examined and every section photographed. The skeletons are now also handled with great care, being first gently uncovered and then moistened so as to harden them, when, ordinarily, they can be removed without fracture. The record of the excavation of the earthworks where implements, ornaments, and skeletons are found is more important than the possession of the objects themselves.

III.—General Progress.

Although an immense field still remains to be explored, we have already gone far enough to show, in a general way, that Southern Ohio was the meeting place of two diverse races of people. Colonel Whittlesey's sagacious generalizations concerning an advance of a more civilized race from the south as far as Southern Ohio, and their final expulsion by more warlike tribes from the Lake region, are fully confirmed by recent investigations. The Indians of Mexico and South America belong to what is called a "short-headed" race, *i. e.*, the width of their skulls is more than three-fourths of their length. Whereas, the Northern Indians are all "long-headed." Now, out of about fourteen hundred skulls found in the vicinity of Madisonville, near Cincinnati, more than twelve hundred clearly belonged to a short-headed race, thus connecting them with southern tribes. Going further back it seems probable that the Southern Indians reached America across the Pacific from Southern Asia; while the northern tribes came via Alaska from Northern Asia.

IV.—Preservation of the Serpent Mound, Adams County.

Coming to objects of more special interest, it is pleasing to announce that the celebrated Serpent Mound, of Adams County, has been explored, restored, and preserved for all the future. The mound is one of the most interesting and remarkable structures of its kind in all the world. But repeated visits had shown that it was fast going to destruction. Its surface had been repeatedly ploughed, and successive crops of grain had been grown upon it. Upon setting the urgency of the case before some public-spirited ladies of Boston last spring, they became so much interested that by subscriptions and lunch-parties upwards of three thousand dollars was raised for purchase of the mound with sufficient land to command approach to it, and to include other adjacent tumuli. In May last this purchase was effected. Sub-

sequently about twenty-five hundred dollars more was raised in the same manner to enable me to restore the mound and make it accessible to the public. During the larger part of September and October, I have been on the ground overseeing the work of restoration. I have followed all around the outer edges and dug down to the old trodden path and had the earth that had washed down from the mound thrown back to its original position. This will now be seeded over and preserved from further incursions of the plow and the harrow. A road has been made up the steep hill from Brush Creek and a spring-house constructed for the comfort of visitors. Another year a park is to be set out with all the variety of trees growing in the county.

V.—Description of the Mound.

The Serpent Mound is situated on Brush Creek, in Franklin township, Adams county, O., about six miles north of Peebles Station, on the Cincinnati and Eastern Railroad, and five miles south of Sinking Springs in Highland county. The head of the serpent rests on a rocky platform which presents a precipitous face to the west, towards the creek, of about one hundred feet in height. The jaws of the serpent's mouth are widely extended, in the act of trying to swallow an egg represented by an oval enclosure about one hundred feet long. This enclosure, as well as the body of the serpent, consists of a ridge of fine earth about four feet high and from ten to fifteen broad. The body of the serpent winds gracefully back towards higher land, making four large folds before reaching the tail. The tail tapers gracefully, and is twisted up in three complete and close coils. The whole length of the mound from the end of the egg on the precipice to the last coil of the tail on the higher land is upwards of thirteen hundred feet.

What was formerly supposed to be two symmetrical limbs, or projections, on either side of the neck prove to be, on the right side, a small mound of stones, perhaps for sacrificial

purposes, and on the other a prominence produced by the partially rotted stump of a tree. An extensive burial-place was discovered in the vicinity of the serpent's tail. This remains to be explored, and will no doubt yield important results. A conical mound about one hundred rods to the southeast was carefully explored, revealing in the centre at the bottom, a well-preserved skeleton with many ornaments, and two intrusive burials at subsequent times and by parties evidently ignorant of the original purpose of the mound.

VI.—Fort Hill.

The Serpent Mound is not in a conspicuous place, but in a situation which seems rather to have been chosen for the privacies of sacred rites. The rising land towards the tail and back for a hundred rods afforded ample space for large gatherings. The view across the creek from the precipice near the head, and indeed form the whole area, is beautiful and impressive, but not very extensive. To the south, however, peaks may be seen ten or fifteen miles away which overlook the Ohio River and the Kentucky hills; while at a slightly less distance to the north, in Highland and Pike counties, are visible several of the highest points in the State. Among these is Fort Hill, on one of the best preserved and most interesting ancient enclosures in the country.

Fort Hill is about eight miles north from the Serpent Mound, four or five miles from Sinking Springs, and nine or ten south of Bainbridge, on the Ohio Southern Railroad. It is in Brush Creek township, on the extreme eastern edge of Highland county. This region lies along the western outcrop of the Waverly sandstone, corresponding to the Berea sandstone in the northern part of the State. These rocks dip gently towards the east and are underlaid by thick deposits of rather soft shale. They formerly extended much farther to the west than now, but have been undermined and removed by various eroding agencies including the ice

of the glacial period. The terminal moraine, as marked by Professor Wright, passes about a mile to the northwest of x y z, Fort Hill. These outliers of the Waverly sandstones remain as isolated caps upon pedestals of shale which the streams have not yet had time to wear away, and are from four hundred to five hundred feet above the bed of the stream at their base. The stream winding around the north and west sides of Fort Hill is Baker's Fork of Brush Creek.

In ascending the slope of Fort Hill it is found to be gentle for the first 250 feet, then much steeper until the last 100 feet is so steep as to be almost inaccessible. The summit is completely isolated, is flat topped, quite irregular in shape, and includes about forty acres of land which has been cleared and cultivated, having at one time been partly occupied by a peach-orchard. A heavy forest of first growth timber covers the sides of the hill in every direction, and their projecting leafy tops largely obstruct the view in summer. But the glimpses of the scenery from every side are among the most charming and extensive anywhere to be found in the State, looking down to the south, as already intimated, upon the valley of Brush Creek, in the vicinity of the Serpent Mound.

This flat-topped summit of the hill is completely enclosed by an ancient fortification of earthworks, penetrated by numerous gateways at irregular intervals. The earthwork was formed by digging the dirt from the inside just back from the rim of the hill and throwing it outside, so that its slope concided with that of the summit. The ridge of earth thus formed is from ten to twenty feet high, and from twenty to forty feet broad, the ditch on the inside being everywhere visible. The minimum age of the work can be inferred from the size of trees growing upon it. One of the stumps was certainly several hundred years old, as shown by the rings of annual growth which could still be counted a year or two ago. Inside the fortification are two shallow, hollow places where water could be preserved for a long time.

The purpose of this wonderful enclosure is evident. It is a fortification most admirably chosen for defence against the enemies of that time. It commanded a most extensive view in every direction, and afforded opportunity to exchange signals with other elevated points from twenty to thirty miles distant. In the fertile valley of Baker's Fork there are numerous sites of Indian villages where doubtless the people lived in times of peace, but upon proper warning Fort Hill was a refuge easily accessible, easily provisioned, and easily defended. What signs of occupancy there may be in the enclosed area is not known, as no excavations have been made. But in themselves both the fortification and the situation are of the most interesting anywhere to be found in the world. The friends of the Western Reserve Historical Society could render no greater service to the archæological and historical interest of the State than to rescue and preserve this remarkable monument of the Mound Builders, as the ladies of Boston have rescued the Serpent Mound near by. By some such definite investment your own interest in archæological investigations will be stimulated. There is no reason why the public sentiment of the State cannot be aroused to a proper appreciation of these remarkable archæological treasures, so that tourist routes should be laid out for their inspection and study. I know of nothing else so calculated to help on this movement, at the present time, as the purchase of Fort Hill by this Society.

TRACT No. 77.
WESTERN RESERVE HISTORICAL SOCIETY,
CLEVELAND, OHIO.

MANUSCRIPT

—OF—

SOLOMON SPAULDING

—AND THE—

BOOK OF MORMON.

A PAPER READ BEFORE THE NORTHERN OHIO AND WESTERN RESERVE HISTORICAL SOCIETY, MARCH 23, 1886.

*MANUSCRIPT OF SOLOMON SPAULDING AND THE BOOK OF MORMON.

The accepted theory of the origin of the "Book of Mormon" connects it with a manuscript written by Solomon Spaulding, purporting to set forth the origin and civilization of the American Indians, and to account for the ancient mounds and earthworks and other remains of the ancient inhabitants which are scattered over the land.

The first publication of this idea seems to have been made by the late E. D. Howe, of Painesville, in a volume published by himself at Painesville in 1834, and entitled "Mormonism Unveiled." He, with an associate, D. P. Hurlbut, of Conneaut, seems to have been the first to gather evidence on the subject from the original sources; and most later writers on Mormonism have depended essentially upon the material furnished by him. The theory of the connection of the "Book of Mormon" with Spaulding's manuscript has become traditional, and has found its way into all anti-Mormon literature and into the general cyclopædies, such as the Britannia, Chambers', Appleton's, McClintock & Strong's and probably others. Prof. George P. Fisher, in his work on general history, just published, adopts the theory.

The question whether or not the "Book of Mormon" is based upon a manuscript of Spaulding is intrinsically of little importance. It required only a very moderate degree of literary ability and invention to produce the book, and several of the original leaders of the fanaticism must have been adequate to the work. It is, perhaps, impossible at this day to prove or disprove the Spaulding theory.

*A paper read before the Northern Ohio and Western Reserve Historical Society, March 23, 1886.

The unquestionable facts bearing on the case are as follows:

Soloman Spaulding was born in Connecticut in 1761, graduated at Dartmouth College in 1785, was ordained to the ministry, and preached in New England a few years, taught an academy for a time in Cherry Valley, New York, or carried on mercantile business there and failed, and in 1809 removed to New Salem, now Conneaut, in Ohio, where in company with one Henry Lake he established an iron foundry. His business not prospering, he removed to Pittsburgh, or its vicinity, in 1812, and a year or two later, to Amity, Pennsylvania, where he died in 1816 at the age of fifty-five years. Spaulding had a literary tendency, and while living at Conneaut, he entertained himself with writing a story which purported to be an account of the original inhabitants of the country, their habits, customs and civilization, their migrations and their conflicts. From time to time, as his work went on, he would call in his neighbors and read to them portions of his manuscript, so that they became familiar with his undertaking. He talked with some of them about publishing his book, in the hope of retrieving his fortunes financially; and this appears to have been his purpose when he removed to Pittsburgh. There is evidence that he conferred with a printer, at Pittsburgh, by the name of Patterson, in reference to the publication, but the book never appeared.

Soon after the publication of the Mormon book in 1830, Mormon preachers appeared in considerable numbers in Northern Ohio, and attracted much attention in the neighborhood at Conneaut. At some of their gatherings where the new Bible was read, persons were present who had heard the Spaulding manuscript, and were struck with the resemblance between the two. Thus the opinion arose and was propagated that the Mormon book was written by Solomon Spaulding. It was the proper place for the testing of the theory. The fact that it obtained a foothold there affords a presumption in favor of the idea, and the testimony

of parties on the ground, if fully trustworthy, establishes the fact beyond question. These testimonies were gathered in 1833, apparently with reference to their publication in Howe's book. As these are the entire basis of the theory, I will give from the book the essential portions of them, found on pages 278-87. The first is from the testimony of John Spaulding, the brother of Solomon:

In 1810 I removed to Ohio and found him (Solomon) engaged in building a forge. I made him a visit about three years after, and found that he had failed, and considerably involved in debt. He then told me he had been writing a book, which he intended to have printed, the avails of which he thought would enable him to pay all his debts. The book was entitled "The Manuscript Found," of which he read to me many passages. It was an historical romance of the first settlers of America, endeavoring to show that the American Indians are the descendants of the Jews, or the lost tribes. It gave a detailed account of their journey from Jerusalem, by land and sea, till they arrived in America, under the command of Nephi and Lehi. They afterwards had quarrels and contentions, and separated into two distinct nations, one of which he denominated Nephites and the other Lamanites. Cruel and bloody wars ensued, in which great multitudes were slain. They buried their dead in large heaps, which caused the mounds so common in this country. Their arts, sciences and civilization were brought into view, in order to account for all the curious antiquities found in various parts of North and South America. I have recently read the "Book of Mormon," and to my great surprise, I find nearly the same historical matter, names, etc., as they were in my brother's writings. I well remember that he wrote in the old style, and commenced about every sentence with "and it came to pass," or "now it came to pass," the same as in the "Book of Mormon," and according to the best of my recollection and belief, it is the same as my brother Solomon wrote, with the exception of the religious matter. By what means it has fallen into the hands of Joseph Smith, Jr., I am unable to determine.

JOHN SPAULDING.

Testimony of Martha, wife of John:

. . . The lapse of time which has intervened, prevents my recollecting but few of the leading incidents of his writings, but the names of Nephi and Lehi, are yet fresh in my memory, as being the principal heroes of his tale. . . . I have read the "Book of Mormon," which has brought fresh to my recollection the writing of Solomon Spaulding; and I have no manner of doubt that the historical part of it is the same that I read and heard read more than twenty years ago. The old obsolete style, and the phrases "and it came to pass, etc.," are the same.

MARTHA SPAULDING.

Testimony of Henry Lake, partner of S. Spaulding, Conneaut, September, 1833:

He (Spaulding) very frequently read to me from a manuscript which he was writing, which he entitled "The Manuscript Found," and which he represented as being found in this town. I spent many hours in hearing him read said writings, and became well acquainted with its contents. . . . This book represented the American Indians as the descendants of the lost tribes, gave an account of their leaving Jerusalem, their contentions and wars which were many and great. One time, when he was reading to me the tragic account of Laban, I pointed out to him what I considered an inconsistency which he promised to correct, but by referring to the "Book of Mormon," I find that it stands there just as he read it to me then. Some months ago I borrowed the "Golden Bible," put it into my pocket, carried it home and thought no more of it. About a week after, my wife found the book in my coat pocket as it hung up, and commenced reading it aloud as I lay upon the bed. She had not read twenty minutes till I was astonished to find the same passages in it that Spaulding had read to me more than twenty years before from his "Manuscript Found." I well recollect telling Mr. Spaulding that the so frequent use of the words "and it came to pass," "now it came to pass," rendered it ridiculous.

HENRY LAKE.

Testimony of Miller, an employe of Spaulding. Springfield, Pennsylvania, September, 1833:

. . . While there I lodged in the family of Spaulding for several months. I was soon introduced to the manuscripts of Spaulding, and perused them as often as I had leasure. He had written two or three books or pamphlets on different subjects, but that which more particularly attracted my attention was one which he called the "Manuscript Found." From this he would frequently read some humorous passages to the company present. It purported to be the history of the first settlement of America before discovered by Columbus. He brought them off from Jerusalem under their leaders, detailing their travels by land and and water, their manners, customs, laws, wars, etc. . . . I have recently examined the "Book of Mormon," and find in it the writings of Solomon Spaulding, from beginning to end, but mixed up with scripture and other religious matter which I did not meet with in the "Manuscript Found." Many of the passages in the "Mormon Book" are verbatim from Spaulding, and others in part. The names of Nephi, Lehi, Moroni, and in fact all the principal names are brought fresh to my recollection by the "Gold Bible."

JOHN N. MILLER.

Testimony of a neighbor, Aaron Wright:

When at his house one day he showed and read to me a history he was writing of the lost tribes of Israel, purporting that they were the first settlers of America, and that the Indians were their descendents. . . . He traced their journey from Jerusalem to America, as it is given in the "Book of Mormon," excepting the religious matter. The historical part of the "Book of Mormon" I know to be the same as I read and heard read from the writings

of Spaulding more than twenty years ago; the names, more especially, are the same without any alteration. . . . In conclusion I will observe that the names of, and most of the historical part of the "Book of Mormon," were as familiar to me before I read it as most modern history. . . .

AARON WRIGHT.

Testimony of O. Smith, a neighbor, with whom Spaulding boarded.

. . . During the time he was at my house I read and heard read one hundred pages or more. Nephi and Lehi were by him represented as leading characters when they first started for America. Their main object was to escape the judgments which they supposed were coming upon the old world; but no religious matter was introduced, as I now recollect. . . . This was the last I heard of Spaulding or his book until the "Book of Mormon" came into the neighborhood. When I heard the historical part of it related, I at once said it was the writings of old Solomon Spaulding. Soon after, I obtained the book, and on reading it I found much of it the same as Spaulding had written more than twenty years before.

OLIVER SMITH.

Testimony of Nahum Howard. Conneaut, August, 1883:

I first became acquainted with Solomon Spaulding in December, 1810. After that I frequently saw him at his house and also at my house. I once, in conversation with him, expressed a surprise at not having any account of the inhabitants once in this country who erected the old forts, mounds, etc. He then told me that he was writing a history of that race of people; and afterwards frequently showed me his writings, which I read. I have lately read the "Book of Mormon," and believe it to be the same as Spaulding wrote except the religious part.

NAHUM HOWARD.

Statement of Artemus Cunningham:

. . . Before showing me his manuscripts he went into a verbal relation of its outlines, saying that it was a fabulous or romantic history of the first settlement of this country, and as it purported to have been a record found buried in the earth, or in a cave, he had adopted the ancient or Scripture style of writing. He then presented his manuscripts, when we sat down and spent a good share of the night in reading and conversing upon them. I well remember the name of Nephi, which appeared to be the principal hero of the story. The frequent repetition of the phrase, "I, Nephi," I recollect as distinctly as though it was yesterday, although the general features of the story have passed from my memory through the lapse of twenty-two years. . . . The Mormon bible I have partially examined, and am fully of the opinion that Solomon Spaulding had written its outlines before he left Conneaut.

This testimony of Cunningham is without his signature, but is called his statement.

Of these eight witnesses, five distinctly state that the religious matter in the "Book of Mormon" was not contained in Spaulding's manuscript. The others state that the historical part of the "Book of Mormon" is the same as of Spaulding's "Manuscript Found."

Mr. Howe inquired of Mr. Patterson, the printer, at Pittsburgh, with whom it was represented that Spaulding conferred in reference to the publication of his manuscript, but Patterson had, at that time, no recollection of the subject, but in 1842, some eight years after the publication of Howe's book, Mr. Patterson signed a statement certifying that a gentleman had put into the hands of the foreman of his printing office, "a manuscript of a singular work, chiefly in the style of our English translation of the Bible," that he (Patterson) read a few pages of it, but as the author could not furnish the means, the manuscript was not printed.

Mr. Howe sent a messenger, D. P. Hurlbut of Conneaut, to the widow of Solomon Spaulding (Mrs. Davison by a second marriage), who was then living with her daughter in Monson, Massachusetts, to ascertain farther about the manuscript and to procure it if it were still within reach. Mrs. Davison stated that her husband had a variety of manuscripts, one of which was entitled the "Manuscript Found," but of its contents she had no distinct remembrance; she thought it was once taken to Patterson's printing office in Pittsburgh, and whether it was ever returned to the house again she was quite uncertain. If it was returned, it must be with the other manuscripts in a trunk which she left in Otsego county, New York.

This was all that Mrs. D. knew of the manuscript in 1834, when Howe published his book; but in 1839, five years later, a statement was published in the Boston *Recorder* under her signature, in which she describes the manuscript very fully, states very definitely that Mr. Patterson took the manuscript, kept it a long time, was greatly pleased with it, and promised to publish it if Mr. Spaulding would make out a title page and preface, which Mr. S. refused to do. She

further states that at her husband's death, the manuscript came into her possession and was carefully preserved. This seems to be a great enlargement of memory or of knowledge since 1834, and it is difficult to read the extended and elaborate statement without reaching the conclusion that Mrs. Spaulding-Davison had very little to do with it. Rev. Robert Patterson, son of Rev. Robert Patterson, the printer, now editor of the Presbyterian *Banner* of Pittsburgh, published some years since a paper on this question, and in quoting a paragraph from this statement of Mrs. Spaulding-Davison, he says that it was made to Rev. D. R. Austin of Monson, Massachusetts, written down by him and published in the Boston *Recorder*.

Mr. Hurlbut, on his visit to Mrs. Davison, obtained from her permission to examine the old hair trunk at her cousin's in Hartwick, New York, in which the manuscript, if in existence, was to be found, and to carry it to Mr. Howe for comparison with the "Book of Mormon." He found but one manuscript, and this he delivered to Mr. Howe who describes it briefly, but somewhat inaccurately in his book, page 288.

The manuscript, lost sight of since the date of Howe's book, came to light at Honolulu, Hawaiian Islands, a year ago last August, in the possession of Mr. L. L. Rice, formerly State printer at Columbus, Ohio. I had asked Mr. Rice, who was an anti-slavery editor in Ohio many years ago, to examine his old pamphlets and papers and see what contributions he could make to the anti-slavery literature of the Oberlin college library. After a few days he brought out an old manuscript with the following certificate on a blank page:

> The writings of Solomon Spaulding, proved by Aaron Wright, Oliver Smith, John N. Miller and others. The testimonies of the above gentlemen are now in my possession. D. P. Hurlbut.

The three men named are of the eight witnesses brought forward by Howe. This manuscript is now in my possession, and it is at hand this evening. The manuscript proves its own antiquity. It is soiled and worn and discolored with age. It consists of about one hundred and seventy pages,

small quarto, unruled, and for the most part closely written —not far from forty-five thousand words. It has been printed by the Josephite Mormons of Lamoni, Iowa, from a copy of the manuscript taken since it came into my possession. As thus printed it makes one hundred and thirty-two pages of three hundred and twenty words each—equal to about one-sixth part of the "Book of Mormon." No date attaches to the manuscript proper, but on a blank page there is a fragment of a letter containing the date, January, 1812. Mr. Rice probably came into possession of the manuscript in 1839, when he succeeded Mr. Howe in the printing office at Painesville, but he has no recollection of ever having seen the manuscript until it came to his notice in Honolulu.

The manuscript has no resemblance to the "Book of Mormon," except in some very general features. There is not a name or an incident common to the two. It is not written in the solemn Scripture style. It is a story of the coming to this country, from Rome, of a ship's company, driven by a storm across the ocean, in the days of the Emperor Constantine. They never returned to their own land, but cast in their lot with the aboriginal tribes inhabiting the country; and it is chiefly occupied with an account of the civilization and conflicts of these tribes—the Delawares, Ohions, Kentucks, Sciotons, Chiaugans, etc., etc. The names of persons are entirely original, quite as remarkable as those in the "Book of Mormon," but never the same—such as Bombal, Kadocam, Lobaska, Hamboon, Ulipoon, Lamesa, etc. The introduction expresses the purpose or motive of the author in its composition, and is as follows—orthography uncorrected, and a few words lost by the crumbling of the manuscript:

Near the west bank of the Conneaught river there are the remains of an ancient fort. As I was walking and forming various conjectures respecting the character, situation and numbers of those people who far exceed the present Indians in works of art and inginuety, I happened to tread on a flat stone. This was at a small distance from the fort, and it lay on the top of a small mound of earth, exactly horizontal. The face of it had a singular appearance. I discovered a number of characters, which appeared to me to be letters, but so much effaced by the ravages of time, that I could not read the inscription. With the assistance of a leaver I raised the stone ; but you may easily conjec-

ture my astonishment when I discovered that its ends and sides rested on stones, and that it was designed as a cover to an artificial cave. I found by examining that its sides were lined with stones built in a conical form, with . . . down, and that it was about 8 feet deep. Determined to investigate the design of this extraordinary work of antiquity, I prepared myself with the necessary requisites for that purpose, and descended to the bottom of the cave. Observing one side to be perpendicular nearly three feet from the bottom, I began to inspect that part with accuracy. Here I noticed a big flat stone fixed in the form of a doar. I immediately tore it down, and lo! a cavity within the wall presented itself, it being about three feet in diameter from side to side, and about two feet high. Within this cavity I found an earthern box, with a cover which shut it perfectly tite. The box was two feet in length, one and half in breadth, and one and three inches in diameter. My mind, filled with awful sensations which crowded fast upon me, would hardly permit my hands to remove this venerable deposit; but curiosity soon gained the ascendancy; the box was taken and raised to open. When I had removed the cover I found that it contained twenty-eight . . . of parchment, and that when . . . appeared to be manuscripts written in eligant hand, with Roman letters and in the Latin language. They were written on a variety of subjects, but the roll which principally attracted my attention contained a history of the author's life and that part of America which extends along the great lakes and the waters of the Missisippy.

Solomon Spaulding's attitude toward the sacred Scriptures and Christianity is brought to light by a record, apparently a copy of a letter, on two loose leaves found in connection with the manuscript, written on paper of the same quality, and in the same handwriting; the statement is without beginning or end, but the substantial part remains, as follows:

But having every reason to place the highest confidence in your friendship and prudence, I have no reluctance in complying with your request in giving you my sentiments on the Christian religion, and so far from considering the freedom you take in making the request, impertinence, I view it as a mark of your affectionate solicitude for my happiness. In giving you my sentiments of the Christian religion, you will perceive that I do not believe certain facts and certain propositions to be true, merely because my ancestors believed them and because they are popular. In forming my creed I bring everything to the standard of reason. This is an unerring and sure guide in all matters of faith and practice. Having divested myself, therefore, of traditionary and vulgar prejudice, and submitting to the guidance of reason, it is impossible for me to have the same sentiments of the Christian religion which its advocates consider as orthodox. It is in my view a mass of contradictions, and an heterogeneous mixture of wisdom and folly, nor can I find any clear and incontrovertible evidence of its being a revelation from an infinitely benevolent and wise God.

It is true that I have never had the leisure nor patience to read every part of it with critical attention, or to study the metaphysical jargon of divines in its vindication. It is enough for me to know that propositions which are in contradiction to each other cannot both be true, and that doctrines and facts which represent the Supreme Being as a barbarous and cruel tyrant, can never be dictated by infinite wisdom. Whatever the clergy say on the contrary can have no effect in altering my sentiments. I know as well as they that two and two make four, and that the three angles of a triangle are equal to two right angles. But, notwithstanding, I disavow any belief in the divinity of the Bible, and consider it a mere human production, designed to enrich and agrandize its authors and enable them to manage the multitude; yet casting aside a considerable mass of rubbish and fanatical rant, I find that it contains a system of ethics or morals which cannot be excelled on account of their tendency to ameliorate the condition of man, to promote individual, social and public happiness, and that in various instances it represents the Almighty as possessing attributes worthy of a transcendant character; having a view, therefore, to those parts of the Bible which are truly good and excellent and sometimes speak of it in times of high commendation, and indeed, I am inclined to believe that, notwithstanding the mischiefs and injuries which have been produced by the bigoted zeal of fanatics and interested priests, yet that these evils are more than counterbalanced in a Christian land by the benefits which result to the great mass of the people by their believing that the Bible is of divine origin, and that it contains a revelation from God. Such being my view of the subject, I make no exertions to dissipate their happy delusion.

The only important question connected with this manuscript is, what light, if any, does it throw on the origin of the "Book of Mormon?" This manuscript clearly was not the basis of the book. Was there another manuscript, which Spaulding was accustomed to read to his neighbors, out of which the "Book of Mormon" grew, under the hand of Sidney Rigdon or Joseph Smith, or both? If we could accept without misgiving the testimony of the eight witnesses, brought forward in Howe's book, we should be obliged to accept the fact of another manuscript. We are to remember that twenty-two years or more had elapsed since they had heard the manuscript read; and before they began to recall their remembrances they had read, or heard the "Book of Mormon," and also the suggestion that the book had its origin in the manuscript of Spaulding. What effect these things had upon the exactness of their memory is matter of doubt. No one was present to cross-question, and Hurlbut and Howe were intent upon finding the testimony to support their theory.

In its more general features the present manuscript fulfills the requirements of the "Manuscript Found." It purports to have been taken from an artificial cave in a mound, and thus was naturally called the "Manuscript Found." It sets forth the coming of a colony from the eastern continent, and is an account of the aboriginal inhabitants of the country, suggested by the mounds and earthworks in the vicinity of the author, and was written to explain the origin of these works. This purpose it pursues with a directness not found in the "Book of Mormon." These general features would naturally bring it to remembrance, on reading the account of the finding of the plates of the "Book of Mormon."

Of the eight witnesses brought forward by Howe, five are careful to except the "religious matter" of the "Book of Mormon," as not contained in the manuscript of Spaulding, and the theory is that this matter was interpolated by Sidney Rigdon, or some other man who expanded the manuscript into the book. This strikes me as an important circumstance. The "Book of Mormon" is permeated in every page and paragraph with religious and Scriptural ideas. It is first and foremost a religious book, and the contrast between it and the supposed manuscript must have been very striking to have led five of these witnesses to call this difference to mind and mention it, after the lapse of twenty years and more. The other three witnesses are careful to say that the "Book of Mormon," in its "historical parts," is derived from the Spaulding manuscript, thus implying the same exception expressed by the others. Now it is difficult —almost impossible, to believe that the religious sentiments of the "Book of Mormon" were wrought into interpolation. They are of the original tissue and substance of the document, and a man as self-reliant and smart as Sidney Rigdon, with a superabundant gift of tongue and every form of utterance, would never have accepted the servile task. There could have been no motive to it, nor could the blundering syntax of the "Book of Mormon" have come from Rigdon's

hand. He had a gift of speech which would have made the style distasteful and impossible to him.

The minuter features of the testimony of these witnesses are obviously of more weight in their bearing upon the probability of another manuscript. When they speak of the Scripture style of the manuscript, the frequent recurrence of the expression, "and it came to pass," the names recalled, "Nephi," "Lehi," and others, the remembrance seems too definite to be called in question. But it must be remembered that the "Book of Mormon" was fresh in their minds, and their recollections of the manuscript found were very remote and dim. That under the pressure and suggestion of Hurlbut and Howe, they should put the ideas at hand in place of those remote and forgotten, and imagine that they remembered what they had recently read, would be only an ordinary example of the frailty of memory, and it would not be unnatural or improbable that such an illusion should be propagated among Spaulding's old neighbors at Conneaut. This view must, of course, be purely hypothetical, and could have little force against the positive testimony.

There has been an attempt to support the testimony of these Conneaut witnesses by following the manuscript through Patterson's office, at Pittsburgh, to the hands of Sidney Rigdon. This theory is sustained by abundance of conjecture, but by very little positive evidence. It has come to be a tradition that Rigdon was a printer in Patterson's office when Spaulding went to Pittsburgh, and thus became acquainted with the manuscript, either stole it or copied it, and after brooding over it fifteen years brought out the Mormon Bible. This would be interesting if true; but there seems no ground to dispute the possitive testimony of Rigdon's brothers that he was never a printer, and never lived in Pittsburgh at all until 1822, eight years after Spaulding left, and then was there as pastor of a Baptist church.

Rigdon sent from Nauvoo, in 1839, to the *Boston Journal*, an indignant denial of the statement of Mrs. Spaulding-Davison, already referred to. A sentence or two from this denial will be sufficient:

It is only necessary to say, in relation to the whole story about Spaulding's writings being in the hands of Mr. Patterson, who was at Pittsburgh, and who is said to have kept a printing office, etc., etc., is the most base of lies, without even the shadow of truth. . . . If I were to say that I ever heard of the Rev. Solomon Spaulding and his hopeful wife until D. P. Hurlbut wrote his lie about me, I should be a liar like unto themselves.

The claim in reference to Rigdon's connection with the Spaulding manuscript seems to become more and more definite with every new statement of the case, and without any addition to the evidence. Mrs. Ellen E. Dickinson, a grandniece of Mrs. Solomon Spaulding, in her "New Light on Mormonism," recently published, finds it easy to put imaginings in the place of facts, in her statements in reference to Rigdon, as follows:

At an early age he was a printer by trade, and is known to have been in Conneaut, Ohio, at the time Spaulding read his "Manuscript Found" to his neighbors, . . . and it is easy to believe the report that he followed or preceded Spaulding to Pittsburgh, knowing all his plans, in order to obtain his manuscript, or copy it, while it was in Patterson's printing house—an easy thing to do, as the fact of the manusctipt being left carelessly in the office for months, is not questionable.—P. 47.

Over against these fancies are the facts given in the testimony of Rigdon's brothers, published by Rev. Robert Patterson, of Pittsburgh, that when Spaulding was reading his manuscript to his neighbors in Conneaut, Rigdon was a boy seventeen or eighteen years of age, on his father's farm in Allegheny county, Pennsylvania; that he never was a printer, and did not live in Pittsburgh until 1822, six years after Spaulding's death.

Another example of the increasing definiteness of the tradition may be found in a volume just published at Cincinnati, giving an account of the various religious sects. Speaking of the "Book of Mormon," the writer says: "Rigdon, who afterwards became Smith's right-hand man, is known to have copied this (Spaulding's) manuscript. A comparison of the 'Book of Mormon' with the original manuscript of this novel, satisfies all, except professing Mormons, that the Mormon bible is simply the old novel revised and corrected by Smith and Rigdon"—an illustration of the facility with which a shadowy tradition becomes definite history.

It does not appear that Smith and Rigdon had any acquaintance with each other until after the publication of the Mormon book. In Howe's book we have a full account of Rigdon's conversion to Mormonism at Mentor, in the autumn of 1830, when Parley P. Pratt introduced to him two Mormon missionaries from Palmyra, New York. In a pamphlet published by Pratt, in 1838, he gives a similar account of Rigdon's conversion and states positively that Smith and Rigdon never saw each other until early in 1831. So far as I am aware, there is nothing to disprove this statement.

A samewhat prevalent theory, which Mrs. Dickinson maintains, is that Hurlbut took *two* manuscripts from the old trunk in Hartwick, New York—one the genuine "Manuscript Found," which he treacherously sold to the Mormons, the other which he delivered to Howe, and which is present this evening. Of this there seems to be no proof. Howe intimates no such thing in his book. It is true that Mrs. Dickinson reports an interview of her own with Howe, in 1830, in which he expresses the opinion that Hurlbut had two manuscripts, one of which he sold to the Mormons, but in the appendix to her book (page 259) she publishes a letter from Howe to Hurlbut, written two or three months before the interview, in which he disclaims any such suspicion.

There are those who claim to know that the last manuscript is still in existence, and will be brought to light at some future day. It would not seem unreasonable to suspend judgment in the case until the new light shall come. Professor Whitsitt, of the Southern Baptist Theological Seminary, Louisville, Kentucky, has given much attention to the internal structure of the "Book of Momon," and is about to publish a life of Sidney Rigdon in which he will maintain, and expects to prove, that Rigdon is responsible for the "Book of Mormon," and that he had Spaulding's manuscript as the basis of his work.

JAMES H. FAIRCHILD.

Oberlin, Ohio.

Tract No. 78.
WESTERN RESERVE HISTORICAL SOCIETY,
CLEVELAND, OHIO.

TWENTY-FOURTH

ANNUAL MEETING

— OF THE —

Western Reserve Historical Society

— OF —

CLEVELAND, OHIO.

Held in the Assembly Room of the Board of Education,
June 19, 1891.

Remarks of Ex-President Hayes—Annual Report of the Secretary—Address of Charles C. Baldwin, the President of the Society, on "The New Methods in History."

THE meeting was called to order by the President, C. C. Baldwin, and, on motion of Vice-president J. H. Sargent, Ex-President R. B. Hayes, an active member of the Society, presided. The ex-president came to the city for the express purpose of attending the meeting, and on taking the chair said:

"The city of Cleveland has become greatly interested in works of education. This city is taking its place among the great cities of the country in being interested in and doing all useful and progressive things. I do not remember with confidence its exact rank among the largest, leading cities, but it is to be found among the ten highest. Historical societies are not popular among the people, as a rule. We grow historical as we grow older. People in the big cities have little time to devote to this work, but we are growing, and it is now time that the work was pushed vigorously and successfully. Much has been done in the past by Colonel Whittlesey, and others, who might be named. The question now is, whether we shall have a suitable place in which to enlarge and to comfortably carry on the work of the society. The opportunity is now offered, I understand, to obtain a suitable place for a permanent and acceptable home. There is no better field for this work than right here on the Western Reserve. There are many families having valuable historical records and documents. These families are only awaiting a place where the records may be safely kept. The fact that you are here, in a busy city like this, is proof enough that you are interested in the work of the society.

"It was in 1834," continued the ex-President, "in the month of June, fifty-seven years ago that I passed through Cleveland pretty thoroughly. It had then 4,000 inhabitants. A boy then twelve years old, with his eyes open, I am able to recall with distinctness the memories of that visit. Coming as I have to Cleveland since many times, I know the city, and I feel as if I had an interest in it. I remember talking with General Grant after his tour around the world. I asked him if he saw any cities abroad which pleased him better that those at home. He replied that he had not. He said that he found no cities during his travels which equaled the three (all lake cities) in this country which he considered the most attractive. He named Cleveland, Detroit and Milwaukee. Cleveland, considered as an attractive city, as a city having a great future, and Cleveland considered as being large and prosperous, is to be counted among the cities on the globe that are notable."

ANNUAL REPORT OF THE SECRETARY, D. W. MANCHESTER.

The Secretary, Mr. D. W. Manchester, next presented his report for the year just ended, which proved most interesting. It was as follows:

In some respects the past year has, perhaps, been the most satisfactory and important of any in the career of the society. It has made substantial progress in various directions—it has made many new friends amongst the community, while its old ones and its members appear to have become revived, and to have evinced a warm and growing interest in its welfare. The general public, too, seems to have opened its eyes to the fact that our rooms are not only a place to amuse and interest but to instruct and educate as well. In short, we seem to be regarded, as not a fixture only, but a necessity. The number of visitors has been probably greater than during the preceding year, and the purpose of the visits has been less for sight seeing and the passing away of time than for study, critical and scientific examination of our museum, consulting the rare and valuable books of reference in the library, our 1,200 bound volumes and upwards of newspapers, our maps, atlases, and the society's own publications.

The additions to the library and museum are: Bound books, by purchase, 181; by donation, 203; by exchange, 89; total bound books, 473. Pamphlets: By purchase, 67; by donation, 356; by exchange, 186; total, 609. Periodicals, 100; bound volumes of newspapers, 16; single newspapers, 150; manuscripts of various kinds, 85; total additions to library, 1,433. There have been added to the museum, pieces, 82, making the entire additions to the rooms, 1,515. Among the valuable additions to the library may be mentioned 68 volumes of the Annual Register from 1748 to 1824—embracing those important periods in American history, the war of the Revolution, the birth of the nation, and the war of 1812. We have also added colonial records of Connecticut; many volumes of genealogies; a complete set of Michigan Pioneer Historical Society publications; publications of the Prince Society; History of the Upper Ohio Valley, in two large quarto volumes; the Charlemagne Tower collections of colonial laws of Pennsylvania; the final volume of the diary of Thomas Robbins, a pioneer missionary on the Reserve, 1803-1806; vital records of Rhode Island and that masterly and in-

valuable work, compiled by the State of Connecticut at a cost of $60,000, "Record of Connecticut Soldiers in the War of the Revolution." We have also completed our sets of the Pennsylvania Magazine of History and Biography and of the Narragansett Historical Register. Deserving of mention also in this connection is the very fine quarto edition of the Ely genealogy, presented by Hon. Heman Ely, of Elyria.

Valuable additions of government publications have also been made, as well as the various State publications, which are much inquired after. We are endeavoring, through our State reprensentatives and other sources, to get complete sets of such, for they contain a vast fund of the most useful information. The annual reports of the city and the publications of its several departments have also been looked after. A great variety of valuable information has been culled from local papers, pamphlets, leaflets and miscellaneous issues. We do not allow the wrapper of a newspaper or pamphlet, or an old newspaper used to protect a package of books purchased, to go into the waste basket until they have first been thoroughly scanned for some item of news, biographical, historical or genealogical. In illustration, a Connecticut newspaper which came with books purchased in Boston, contained the date of the birth and death of a person whom a gentleman living in Buffalo, engaged in preparing a genealogy of his family, had long sought to ascertain. Grateful acknowledgment was made, with expression of kind regard for our usefulness and thoughtfulness. Indeed, we have endeavored to follow the advice of Macaulay, that nothing which in any way casts a ray on former habits, opinions and modes and methods of life should be omitted from history. The great English historian tells how an artist from the bits of broken glass thrown aside by another was able to construct a beautiful cathedral window. So this society, by being zealously watchful, has rescued many a gem from the dirt and rubbish and given it deserved and beautiful setting. A number of interesting and valuable donations have been made to the museum, notably by Mr. J. H. Wade, Jr., a life-sized portrait in oil by Alonzo Pease, of Professor S. F. B. Morse ; life-size crayon of the late S. V. Harkness and Selah Chamberlain ; also from Mr. A. St. John Newberry, a painting by Clough of the interior of "Floral Hall," Cleveland Sanitary Fair, 1863. In a note with the present Mr. Newberry says: "It seems to me the picture has decided historical merit. It is 24x36 inches in size, and cost my father, for whom it was painted,

$150, without the frame." It is an interesting reminder of the great war days and of the loyalty and devotion to the country and its soldiers of the people of Northern Ohio. We have likewise received from A. W. Humphreys, Esq., of New York City, executor of the late James A. Briggs, a package of autograph letters from Joshua R. Giddings which relate largely to the exciting anti-slavery times, and contain much political history of that and later periods, together with reminiscences of men who were prominent in public affairs in Ohio and the country at large.

The society has distributed during the year 350 of its own publications and duplicates, 475 in all. It has received and answered some 2,000 letters and postal cards and sent out some 1,500 circulars. These distributions have gone to nearly every State in the Union and many foreign countries. The annual report of a year ago showed that the library then contained 8,004 bound volumes, 11,466 pamphlets, and 1,117 bound volumes of newspapers. With the additions of the year we have: bound volumes, 8,477; pamphlets, 11,975; bound volumes of newspapers, 1,117; periodicals, 100, a total of 21,685. The membership has been increased by one life, six annual, and seventeen corresponding members. Four life members have died—Mr. Seymour W. Baldwin, of Elyria; Mr. Horace Kelly, Mr. J. H. Wade, and Mr. D. W. Cross, of this city, and one annual, Mr. Selah Chamberlain, and one honorary, Hon. George Bancroft. Memorial sketches of these individuals will appear in the customary obituary notices in order in our regular publications. Five new societies, the National Museum of Antiquity, Edinburgh, Scotland; Hyde Park Historical Society, Massachusetts; Historical Society, Southern California; West Virginia Historical and Antiquarian Society, of West Virginia; and Bostonian Society, Massachusetts, have been added to our exchange list.

In December, 1890, the society resumed its public meetings and gave a series of free public lectures. "Glacial Man in Ohio," by Mr. W. C. Mills, of New Comerstown, was the subject of the first. Mr. Mills exhibited the palæolith found by him in Tuscarawas county in 1889, which has attracted attention of scientific men in Massachusetts and at Washington as being one of the most important finds in many years. It is deposited in the society's rooms. The second meeting in January was a paper by Mr. C. P. Leland, a member of the society and auditor of the L. S. & M. S. R. R., entitled "The Rise and Fall of a Railway Company Fifty Years Ago." It was an

entertaining account of the Ohio Railway from Fairport through Cleveland to Toledo in 1836. Also in January Mr. John H. Sargent, one of our vice-presidents, read a paper on the "History of the Harbor of Cleveland," a topic at that time of much local interest. In February, Professor Edward W. Claypool, of Akron, presented a paper on "Plants of the Ice Period." March 18, Professor Wright, of Oberlin, delivered a most interesting address on "Recent Discoveries Concerning Pre-historic Man of the Pacific Coast." All these meetings were of interest and value to the public and a credit to the society, and were attended by people from near and remote localities in the State. The average attendance at these meetings was 184, which is unusually large for entertainments given by historical societies. In short, our experience was unlike and like a certain Eastern and older society which reported that the attendance at its lecture was quite small, but that "more stayed than went away." The society is growing in importance and usefulness. It is being appreciated and valued more day by day. School children, Protestant and Catholic, with their teachers visit it for observation, study, and comparison. Educators high in position in this and other States seek its rooms, its exhibits, and its library, and add to their store of knowledge and bear it away to give into other hands and other minds. Professional men, lawyers, physicians, divines, newspaper men, come here and partake of our garnered stores Such calls and visits are increasing, and best of all is that we never yet have failed to give them the information sought or put them in the way to obtain it. To illustrate, a student in one of our prominent local educational institutions came for information to be used in his thesis. He remarked, after a short stay, "I have obtained more here in two hours than anywhere else in two weeks." We have made seventy-eight publications, every one of them of great historical or scientific value. They are sought after far and near, much beyond our facilities to supply. Especially are they appreciated by other societies and institutions of learning. In a catalogue of books published in 1890, relating to Ohio, a bibliographer of national fame says that our publications are the most valuable collection of pamphlets yet published relating to the West. One of these pamphlets furnished much information used in an important case recently before the United States Supreme Court. I venture to say that, if this society had done nothing else, if it had no other record than these publications, they alone give evidence of its right to have lived and to live. Several of its members have furnished contributions to standard publications

that have commanded respectful consideration and notice from literary men and historical writers throughout the country. We are doing good, benefiting people at home and abroad. Almost daily, letters are received from localities near or remote for information on various topics. It is only recently that a letter came from far-away New Zealand, making important inquiry. Not long since, a prominent citizen of California, unknown to us personally, but not unfamiliar with the society's work and reputation, wrote for certain specific information, saying: "I write you because I do not know where else I will be as likely to get what I want." To-day, a request was received from a historical writer and published in Virginia asking the loan by us of a periodical for purposes of consultation in preparing matter for the press. To-day, also, the lecturer on history in Mount Union College, makes similar request for one of our own publications, and it is a very common thing for letters to be sent in by individuals or institutions that have received them with the endorsements, "referred to the Historical Society." Our standing with other societies and institutions is high and honorable, and we are on the exchange list of nearly all of the 215 societies in the United States. Historical interest and study are on the increase throughout the country and there is a great awakening among all societies.

We must keep in step and touch with this awakening spirit and movement. As illustrative of this general feeling and of the importance of establishing and sustaining historical societies, and the growing interest already referred to, it may be mentioned that Massachusetts did not organize a society until 170 years after her settlement. New York organized hers not until 1804, Maine 1822, New Hampshire about the same time, while in the newer States recently admitted the first care, after setting up and setting to running the machinery of State government, has been to establish historical societies, that the history and record of those States and of the men and women who formed them might be preserved to all time. "The Historical Society is the point of attraction for those whose tastes are similar, and it gives opportunities for the preparation of papers which often in a brief form embody the results of much careful research." I will not say that it is a test of character to belong to a historical society, but may it not be said to be an index of character? I have given but the merest outlines of what we have been doing and of what we are. Far more, could ought to be said. It is well, however, to be reminded of what constitutes a historical society. It is not a reared

mass of stone and brick, not a mere location, a building, but what is within, its members, its publications, its elevating and educational character, its record. It has been said that a book should be valued not for what it contains, but for what can be got out of it. The Western Reserve Historical Society is valued both for what it contains and for what you can get out of it.

Early in this report it was remarked that the affairs of the society during the past pear have been unusually satisfactory. Not the least gratifying have been the favorable comments and praise bestowed by visitors, scholars, and professional men from the older and Eastern States and societies, upon the valuable library we have collected, and the rare good taste and judgment shown in selection. The society's growth has been substantial, its progress wonderful, especially when it is remembered that it has received no aid save such as its friends and members have voluntarily furnished. Such a condition of things eloquently speaks of the intelligence and devotion of its members and of the harmony that has universally prevailed. And when you are told that this degree of excellence and efficiency, and this state of prominence have been attained through the efforts of those who have continually had a great press of other, outside business on their hands, I think your wonder, and respect will deepen and increase. You will thus see that it demands and should have the entire and undivided, constant, personal services of some one. It has existed and grown for a quarter of a century. That is not a long time, and yet it is. Then, when this society was organized, were living in our midst men and women who came here with the original pioneers and who assisted in establishing the foundations and developing the resources and industries of the country. They knew all about its early history and their lives and examples gave tone and character to it. But as we turn back to the past, we are at once also turned to look at the future. "We dislike to think of anything that has been done, as having accomplished itself and as having nothing to do with the years to come." So this society, although in the twenty-five years of its existence it has accomplished really great and creditable things, feels that it yet belongs more to the future than to the past, because, as they become appreciated and understood in relation to society, historical, antiquarian, and scientific study and research and investigation will be prosecuted with greater zeal and become more interesting and valuable and important to mankind as time bears on. It would seem, then, to be the part of wisdom and of duty that the members and friends of this society give it aid and encouragement that shall place it in line and touch with the awakening and progressive interest and spirit in historical matters that is so apparent and so important.

ADDRESS OF PRESIDENT C. C. BALDWIN—"NEW METHODS OF HISTORY."

Most histories written in days gone by, have been justly subject to the criticism placed upon them by Mr. Herbert Spencer ; of relating what was useless and nothing useful, omitting all narration of modes of life, thought, state of civilization or manners, except so far as they were here and there incidentally revealed. But to suit the intelligent reader of to-day, there must be made for him a new and later narrative ; written with a different view, with a different grouping of facts, combined more by sociological relation than by time. Nor are the mnemonic triumphs of earlier days considered of value. Learned teachers select epochs, or write monographs on some historical topic, and refer the willing student more to the original authorities. What might seem a narrower learning is really broader and deeper and vastly more useful and thoughtful. It is much pleasanter also, for it is more delightful to be acquainted with one period, or even one man of olden times, than to commit to memory a worn out time card.

The popular impetus, started by Sir Walter Scott, the novelist, and Macauley, the historian, more intelligently carried on by Arnold, Stubbs, Lecky, Freeman and Rogers, in England, and by American authors as well, has since our Centennial spread over our country. It must be that every age will look upon the past for itself, that much that formerly was most prominent is of little consequence, while from the germ of smaller things, of ideas or experience which in their youth seemed little—have grown great things. In no other way can the history of man develop. But the change in our day is broader. For the first time there is a general disposition to apply to history the scientific methods, which mankind has slowly learned, and which should be applied to all of life. Histories of development in different lines, of epochs, biographies of leaders, commonwealths treated from such views as give unity and dramatic interest, abound. Many of them are small but instructive. I am sure one may learn more from Mr. John Fiske's little book for young people on the Revolution than from many a larger book on that war. Mr. Freeman's little book on the English Constitution is an excellent example of the life that may be given in a small compass to a seemingly abstruse subject. Mr. Fiske's "Beginning of New England" is instinct with the fine qualities of life.

Mr. Froude has a curious essay on "The Science of History."

The paper does not seem to me to be as clearly reasoned as it might have been, but it has the very high quality of exciting thought in the reader, possibly the more than if it were a more analytical and deductive paper. He is of the opinion that history is not a science, because it is liable to be disturbed by human volition, and that it is impossible to tell the future with precision. He says further that history has often seemed to him like a child's box of letters, with which one can spell any word he pleases. "Let," says he, "your theory of history be what you will, you will find no difficulty in providing facts to prove it."

But a proper analysis leaves to history all its dignity. Past experience is the basis of all learning—while history may not of itself be a science, the scientific method should be applied to it; while all the history of man may not be coterminous with sociology, yet it contains the material for that and other learning. From past experience comes all science. Its aggregate is all civilization—learning its lessons is progress. So strongly has that been sometimes felt that Mr. Freeman has declared "that history is but past politics and that politics are but present history."

America is a fertile field for history in its many commonwealths, its recent life, and the short time from savagery to a high civilization. American students are doing much for the new methods. As an example, the Johns Hopkins school with its monographs on subjects constitutional, municipal, general, and local, is rapidly accumulating material which, by the comparative methods, will be most fruitful. To speak again of Mr. Fiske, another of his little books on Civil Government shows what active life there is in such mode of study for, he shows large obligations to their publications. The difficulty of assuring or foretelling the future with certainty applies to all sociology. Where there is one cause it may be certain to produce one effect, but where, as in the life of man, there are many forces operating with and against each other, and in many ways, we can only say that a cause tends to produce a certain result, but to be able to say that is science. History is many sided and in many ways lies close to science. Sociology in all its branches, may well be science, and the seeming uncertainty of the future in history is not because causes do not tend to produce certain results, and will if undisturbed, but because in the more complicated affairs of man there are so many causes tending to various results, and to learn and appreciate all the causes which may be acting at once, is too strong a problem. And if indeed we can get

the popular mind to believe that government, national, state, and municipal, like all other science, is to be learned from past experience, we may expect an advance to arise indeed, and which will not spend its strength in vain endeavor as in Horace the Adriatic

"Wastes the eaten Tuscan shore in wintry strife."

A striking feature of the intellectual life of to-day is the general prevalence of different views of economies and modes of government. Restless, and often lawless and bloody conflicts, seem to threaten the present condition of man, and timid souls fear much. The air is full of differing theories. Hardly two persons would completely agree. How should they and why is not this condition healthy? In the past, economies and government have been no part of school learning. An education designed to fit a young man for life, has taught him arithmetic, geography, grammar, a little science, the dead skeleton of history, but nothing of its teachings and nothing in the science of business which is to be his pursuit for life, his foundation in success if he gets it. The slim forms of business are offered to be taught by commercial schools in a few weeks. Economics—the science of practical life, has not been taught at all in common schools nor nearly as much as it should be in scientific methods in colleges. Other sciences are to be learned and taught from experience, but social science using all forces of nature and the motives which meet in man—most complicated and difficult of all science—has still indulged in theory and unscientific methods. If, then, in consequence of such education as makes a general activity of mind—but has taught nothing of the laws of business or political life – there is general activity in theory, the more theories and the more general the discussion of and interest in them the better so that the administration of life may be well thought out. As to be expected, such theories have generally elements of weakness. But the tendencies of the times are plainly seen. There has been a most inadequate social science. It is not yet fairly past the theoretic stage with which every science is hampered at its outset. Men like to plan a system rather than to drudge in minutiæ to arrive at certainty.

Man has passed a stage where the end of government and economics was to favor a few. Then followed to favor the aggregate wealth without regard to distribution—the arithmetical state of balance of trade, of two much government and too little, too much protection, and a complete theory of "laissez faire." The "laissez faire" theory is followed by the theories of a paternal government. Lately has been

recognized the historical school, which is now rising to the ascendency, who are treating the science of life on Baconian models, with the same methods which have made a solid basis for every flourishing science. And a learned and humane economist, Dr. Richard T. Ely, quotes to me with approval the words of that leader in the new history, Dr. Herbert B. Adams, that "Political Economy is becoming historical, and history is becoming economic." To be accurate, the offices, rights and duties of government and the governed, how best conducted and the best rules of economics in private hands, must be determined by the experience of history; there is no other. The historical school, bound to no theory, but to the scientific mode of learning, is growing strong, both here and abroad. The writers of pure theory are already being followed by wiser and more learned men, who intelligently study the past to make safe the future.

It is the office of a Historical Society to carry from age to age, and to keep for each age such material as may be wanted, and such societies should be, and will be if rightly supported and appreciated, a practical and most valuable school of education. Past history is wider than Mr. Freeman's definition; man's actions are not simply economical. Mr. Freeman elsewhere says "History is a moral lesson." Man has passions and a moral sense. He has generosity, fine feelings, which are in character above views purely selfish and such views of his religious duty as cannot be explained on the principle of weighing the most economic good to himself. He stands in Mr. Spencer's "First Principles," as matter of science upon the margin, or rather on each side the margin, between the knowable and unknowable; the world on one side and Deity on the other. There are as fine pictures in history as in fiction, of romance, of pathos, of tragedy, and of comedy. If one reads Mr. Parkman's "Jesuits in North America" with no better business or governmental practical education, yet he is not a good or a manly man if he does not feel greater courage and devotion to high minded and less mistaken notions of religion than than those held by Mr. Parkman's heroes.

I have lately said elsewhere, that the pleasures of history are akin to travel and that he who well understood the life of a prior period of his own locality, had traveled abroad. The chief pleasure and profit of foreign travel consists in comparison, and those matters are most interesting and instructive which differ from our own country. The same rules obtained in the survey of history, so that those matters which are useful are at the same time interesting. The com-

parative methods of modern times have been most productive. I need hardly mention comparative philology, so directly resulting from history. Professor Rogers' "Work and Wages" and "Economic Interpretation of History," Professor Freeman's "Comparative Politics," and numerous other examples might be named, and a late book in an international series is named "Comparative Literature." Our own country, with its thirteen original colonies and its many younger commonwealths, affords a fine field. I know none better than Ohio to easily compare different races, and partly by research original for that purpose. Palæolithic man was here. These followed builders of vast earth works. Later, the neolithic races, then the French, the English, and the American, a mixture of different stocks, and from an absolutely savage condition to the highest advance of civilization is but very liitle over one hundred years.

The hard problems of municipal government must be worked out with the careful use of history by each municipality; for if each is to be governed only by its present experience it is but too plain there will be an expensive series of ignominious mistakes. Never has there been such promise of interesting narratives, of entertaining knowledge of past times, and of practical wisdom for the present and the future as is likely to resuls from the new methods in history.

FOR THE CAUSE OF HISTORY AND CULTURE.

From the Cleveland LEADER, June 21, 1891.

It is a pleasure to note from the reports made at the twenty-fourth annual meeting, Friday, that the Western Reserve Historical Society is in a more than usually satisfactory condition. Cleveland has few organizations which deserve warmer encouragement, or are doing a more laudable work than this one. The necessity of collecting historical facts from time to time before the sources become obscure or the records destroyed is obvious, and the wisdom of preserving the reminders of early days and other times is equally manifest. This is the dual field occupied by the society, and every one who has had a chance to learn its reputation among historical authorities in the East knows that it fills it ably. Its collection of facts bearing upon the early history of Northern Ohio has already attracted wide attention and won warm praise from those interested in historical subjects. One noted authority has pronounced its pamphlets, some seventy-eight in number, the most valuable collection of facts relating to the West yet published. As time goes on these works will become more and more valuable because of the increasing difficulty with which the information they contain can be secured from original sources. In this one branch of its work it is performing a service to the cause of history which cannot be easily overestimated, and which merits the warmest recognition from the public.

Its other work, that of gathering interesting and curious things connected with the history of Ohio into a museum, is of much interest. It affords the means for observing many interesting things in the every-day life of the forefathers, and excites a popular interest in historical studies that is of very great value. It preserves glimpses of the life of past generations that aid in appreciating history and give a local color to what otherwise might be considered dry records.

Comparatively few persons in Cleveland appreciate what an excellent historical museum this society possesses because the quarters it now occupies are cramped and unsatisfactory. It ought by all means to be given better rooms, and as it now has the opportunity to secure an excellent building centrally located and admirably adapted for its purpose at a very low price the money ought to be forthcoming at once. If this building is secured the museum will speedily become the most noted historical collection in the State and one of the most valuable in the West, a credit and an honor to the city. We hope our business men will be particularly liberal in this matter and see to it that the society secures the old Society for Savings building in which to arrange its large and valuable collection of rare and curious things connected with the past of the city and State. A city can have few more priceless possessions than a first-class museum.

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1891.

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C. C. BALDWIN.

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(HOLDING OVER TO MAY, 1892.)

LEVI F. BAUDER. PETER HITCHCOCK.
HENRY N. JOHNSON.

(TO MAY 1893.)

C. C. BALDWIN. STILES H. CURTISS.
RUTHERFORD B. HAYES.

(TO MAY, 1894.)

AMOS TOWNSEND. DOUGLAS PERKINS. P. H. BABCOCK.

TRUSTEES OF INVESTED FUNDS.

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HON. C. C. BALDWIN.

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Museum.

P. H. Babcock, H. N. Johnson, Phil. H. Keese.

Biography and Obituaries.

Sam. Briggs, H. R. Hatch, C. C. Baldwin, D. W. Manchester.

Genealogies.

D. W. Manchester, Sam Briggs, J. H. Wade, Jr.

Ohio Local History and Atlasses.

L. F. Bauder, S. H. Curtiss, W. H. Brew, J. W. Willard.

Manuscripts.

Douglas Perkins, J. B. French, A. T. Anderson.

Printing.

Lee McBride, J. B. French, A. L. Withington.

Public Documents.

Hon. Amos Townsend, Hon. Wm. Bingham, Gen. R. B. Hayes, H. N. Johnson, Hon. T. E. Burton.

Photographs and Views.

J. F. Ryder, E. Decker, Miss L. T. Guilford.

Newspaper Paper Files.

E. H. Perdue, H. S. Sherman, L. E. Holden, James D. Cleveland, John M. Wilcox.

Coins.

H. N. Johnson, Miss M. E. Ingersoll, W. H. Barris.

Finance.

Hon. R. P. Ranney, Hon. Wm. Bingham, Douglas Perkins, W. J. Boardman, Jarvis M. Adams, J. D. Rockefeller, Gen. James Barnett.

Societies and Exchanges.

Gen. M. D. Leggett. E. L. Rich, C. C. Baldwin, N. P. Bowles.

Military History.

Gen. R. B. Hayes, Gen. M. D. Leggett, Col. H. N. Whitbeck. C. C. Dewstoe, D. H. Kimberly.

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Lewis Cass

From Pen Drawing by W.G.C.

Tract No. 79.
Western Reserve Historical Society,
Cleveland, Ohio.

Case School of Applied Science.

LEONARD CASE, Sr., 1786—1864.

WILLIAM CASE, 1818—1862.

LEONARD CASE, Jr., 1820—1880.

A Biographical Sketch of the Founder of Case School of Applied Science, and His Kinsmen.

Read at Commencement, June 11, 1891.

CLEVELAND:
SHORT & FORMAN,
1891.

LEONARD CASE, SR., 1786—1864.

WILLIAM CASE, 1818—1862.

LEONARD CASE, JR., 1820—1880.

I.

This sketch is intended to contribute some impressions of the personal characteristics of Leonard Case as he appeared to one who was a schoolmate in his boyhood and although knowing him less intimately than some others did in his after life always enjoyed his warm friendship and intercourse as a neighbor and fellow-townsman.

It is the impression made by a man who dwelt in Cleveland from the beginning to the end of his career, leading an intense and thoughtful life, warmly attached to a few chosen friends, unobtrusive, undemonstrative, avoiding publicity, denying himself participation in public affairs, yet concealing nothing of his pursuits, his studies, his work in mathematics and in literature, with declared and open convictions on all political and social questions.

All was patent to those who knew him. He tried to conceal nothing but his benefactions and his charities.

The union of the peculiarities of a studious life with the qualities of a man of wide travel and a thorough and broad education, gave him many sides. Possibly the opinions of his contemporaries will be as varied as the sides he presented, and the different points from which they made the observation.

With these reminiscences, mingled with facts derived from authentic sources, it is hoped that those who come after us will be better able to understand what manner of man he was, who founded a school of science for the training of the youth of his native city, and what led him to devote so generous a portion of his estate to that object.

Those who did not know the elder Leonard Case can with difficulty understand the unusual closeness of the bond which united the father and sons in certain views and objects of their lives.

And no one can correctly estimate the mind and character of Leonard Case the younger—*our* Leonard Case—without some knowledge of the father and elder brother. An outline, therefore, of the career and character of these, his kinsmen, seems pertinent to our subject, and ought to be of interest to all who would know the beginnings of a great city, and of some of its noblest institutions.

II.

You know the old saying that, "You can make anything of a boy that you wish, but—to do this, you must begin with his grandfather."

This quaint and somewhat complex way of stating what runs in an old man's head when he has known and survived several generations of a family stock, only expresses what the laws of heredity teach, that a man is really the sum of his ancestors with all the modifications of his education and surrounding circumstances.

The lines of the Case family take us, on the paternal side, back to Holland, from which four brothers, Christopher, Theophilus, Reuben and Butler, migrated early in the last century.

We know little of them as individuals—only that they came from a nation which had fought the longest and bloodiest wars

for religious and civil liberty against Spanish domination and the Spanish Inquisition, and had become the rival of Great Britain for the supremacy of the high seas, and in the planting of colonies in America, Africa and the East Indies.

The Hollanders who came to our shores, both in the seventeenth and eighteenth centuries, were men of the strongest fibre, and left tokens of their superior quality.

They were well educated, very practical, and strongly protestant, and have left indelible marks on the institutions of our common country.

These Holland Cases settled on Long Island and in Morris county, New Jersey—and one of them, Butler, moved into Westmoreland county, Pennsylvania, in 1778, where his son Meshach Case, a young farmer, settled, and married Magdalene Eckstein in 1780.

On the maternal side there is more knowledge of its history. Leonard Eckstein, the grandfather of the elder Leonard Case, was a native of Bavaria and born near the ancient city of Nuremburg, that old walled and castellated city founded in medieval times, about ninety miles north of Munich on the river Pegnitz. Melancthon founded a college there, and the people were of old, among the most ingenious in Europe. It was the place where watches were first made, and known in all the marts of Europe as "Nuremburg Eggs." Some of the brothers of Leonard Eckstein were sculptors and carvers, and Johannes worked for Frederick the Great in Berlin and Potsdam, and others at The Hague in the Netherlands.

In 1750 this Leonard Eckstein was a fiery and disputatious youth of nineteen, and had a quarrel with the Catholic clergy of Nuremburg. He and all his family were Protestant.

The quarrel resulted in his being thrown into prison, where, shut up in a high tower, he was treated with severity, and nearly starved. Fortunately his jailers allowed his sister to visit him and to carry to him food and other comforts. These two conspired for his escape. One day she brought to him a cake in which she had baked a long and slender silken cord.

They had discovered that the small window in his cell gave out upon a perpendicular wall eighty feet above the ground.

Upon a dark night agreed upon, the silken cord was let down

from the window, and a confederate below fastened to it a larger cord or rope which Eckstein drew up to the aperture, fastened, and slid down upon, to the earth below.

His father and family, fearing that this escape and his independent disposition would bring him into greater trouble, furnished him with a little money and he fled towards Holland, where he took ship for America.

He landed in Philadelphia about 1750, a youth of nineteen, without a cent or an acquaintance in the country.

The story has a flavor of romance; but he bravely pushed his way into Virginia, married in Winchester, and moved again into western Pennsylvania, where his daughter Magdalene married Meshach Case.

There he told the story to his grand-children and showed his hands, scarred by the blisters which the cord had made as he slid down from the old Nuremburg tower window.

He lived till about 1799, and his grandson, Leonard Case, Sr., to whom he related the story, has left us his testimony of it in his own narrative of early memories.

Mr. Case, in his narrative says of Leonard Eckstein, his grandfather: "He was a man of more than ordinary mind; of strong convictions and fearless in his expression of his opinions. He had had a good education, was a good Latin scholar, and spoke English so perfectly that no one would have suspected his being a German. His difficulty with the Catholic priesthood made a deep and bitter impression on his mind, and it lasted as long as he lived. He had read the scriptures so much that he seemed to have them committed to memory. He was always ready for religious discussion when he met an antagonist of sufficient *caliber*, otherwise he would not engage."

III.

As the fruit of this union of the German and Holland stocks, Leonard Case, Sr., was born July 29, 1786, in Westmoreland county, Pennsylvania, near the Monongahela river, and was the oldest son in a family of eight children.

For many years his father, Meshach Case, suffered from asthma to the extent of making him a partial invalid. He attributed this to the hardships he had suffered as a soldier in the revolutionary army. Hence, much of the management of his affairs devolved upon his wife, a woman of superior character, educated beyond the average of those days, energetic, having a good executive faculty, and blessed with robust health.

The oldest son had little opportunity for school learning. In the settlements only an occasional school was opened by an itinerant schoolmaster, and in one of these log school houses, from his fourth to his eleventh year, the boy learned to read and the simplest beginnings of writing and arithmetic.

He was a robust and active boy, for at seven years he was cutting the wood for the fires, thrashing grain at ten years, and reaping in the harvest field at twelve. And he must have been equally strong in self control, for at that time he made a solemn vow never again to drink spirituous liquor, and kept the pledge through life.

In 1799 his father and mother went on an exploring expedition into Ohio, and on horseback came into the Connecticut Western Reserve, buying two hundred acres of land in the township of Warren, Trumbull county. It had fifteen acres of Indian clearing, and before they returned they had raised a log cabin and cut away an acre of timber around it.

The family arrived on the spot the next spring, on April 26, 1800, and with them several of their Pennsylvania neighbors. On the Fourth of July they celebrated the birth of Independence when there were not fifty people beside them on the whole domain of the Connecticut Land Company.

Mr. Case in his narrative gives a particular account of the celebration, when even the musical instruments were made on the spot; the drum from the trunk of a hollow pepperidge tree

with a fawn's skin stretched across the ends, and a fife from a large strong stem of elder. Every settler, man and boy, had a gun.

From April, 1800 to October, 1801, this lad of fourteen, upon whom the whole family leaned for the heaviest work, the ploughing, harvesting, hunting the cattle through forest and stream, ranging the woods for game, deer and bear, exulted in robust and untiring strength.

Suddenly, with no premonition, he was prostrated with a fever in consequence of crossing the Mahoning river when overheated, in pursuit of the cattle, resulting in ulcers which made him a cripple for life, and oppressed with pains which never, for a day, gave him relief, as long as he lived.

This sickness was prolonged, and it was not till the end of two years that he was so far convalescent as to be able to sit up.

It is a story which awakes our pity and admiration. How he determined not to be dependent upon charity or the labor of the others; schooled himself in reading and writing; invented and made instruments for drafting, and in order to get books and clothes, bottomed all the chairs in the neighborhood, made riddles and sieves for the grain of the farmers, and finally found himself necessary to those around him.

Then his handwriting attracted the attention of the clerk of the court at Warren, and in 1806 he was absorbing all that there was to know in the laws and land titles of the country.

He was appointed clerk of the Supreme Court for Trumbull county in 1806, and had an opportunity to study and copy the records of the Connecticut Land Company in the recorder's office, and when he was employed by Gen. Simon Perkins, who was the land agent of the company in 1807, he was made his confidential clerk. From that time till 1844, when Gen. Perkins died, they were bound together in strong and true friendship.

John D. Edwards, a lawyer holding the office of recorder of Trumbull county, then comprising all the Western Reserve, also proved a fast friend; advised him to study law and furnished him with books to prosecute his studies.

At this time he made an abstract of the drafts of the Connecticut Land Company, showing from the records of that company all the original proprietors of the Reserve and the lands

purchased by them, an abstract which was so correct that it became the standard beginning of all searches of land titles, and is still copied and used by all the abstracters and examiners of titles in all the counties of the Reserve.

The war of 1812 found Mr. Case at Warren, having among his other duties that of the collection of non-resident taxes on the Western Reserve. Having to go to Chillicothe to make his settlement, he prepared for his journey to the state capital by making a careful disposition of all official matters, so that in case of misfortune to him there would be no difficulty in settling his affairs and no loss to his bail.

The money belonging to the several townships was parceled out, enveloped and marked in readiness to hand over to the several trustees.

The parcels were then deposited with his friend Mr. Edwards, with directions to pay over to the proper parties should he not return in time.

The journey was made without mishap, but on his return he found that his friend had set out to join the army on the Maumee and had died suddenly on the way. To the gratification of Mr. Case, however, the money was found where he had left it, untouched.

In 1816 Mr. Case received the appointment of cashier of the Commercial Bank of Lake Erie, just organized in Cleveland. He immediately removed to Cleveland and entered on the discharge of his duties.

These did not occupy the whole of his time, so to the avocations of a banker he coupled the practice of law and also the business of a land agent.

The bank, in common with most institutions of the kind, was compelled to suspend operations, but was revived in after years with Mr. Case as president.

With the close of active duty in the bank, he devoted himself more earnestly to the practice of the law and the prosecution of his business as land agent.

He had a natural taste for the investigations of land titles, and the history of the earlier land transactions.

His business as land agent gave him scope for the gratification of this taste, and his agency for the Connecticut Land

Company from 1827 to 1855, enabled him still further to prosecute his researches.

His strong memory retained the facts acquired until he became complete master of the whole history of titles derived from the Connecticut Land Company.

From his earliest connection with Cleveland, Mr. Case took a lively interest in the affairs of the village, the improvement of the streets, maintenance and enlargement of the schools, and the extension of religious influences.

For all these he contributed liberally and spent much time and labor. To his thoughtfulness and public spirit are due the commencement of the work of planting shade trees on the streets, which has added so much to the beauty of the city, and has won for it the cognomen of the Forest City.

From 1821 to 1825 he was president of the village.

On the erection of Cuyahoga county he was its first auditor. He was subsequently (1824 to 1827) sent to the legislature, where he distinguished himself by his persistent labors in behalf of the Ohio canals.

He originated and drafted the first bill providing for raising taxes on lands according to their value. They had been before that time taxed so much per acre without regard to value, and this change in the mode of raising taxes has been continued.

His great experience and practical sense enabled him to furnish a system of checks and guards against carelessness and peculation, and his plan for systematic estimates and auditing of accounts on the great public works then set on foot, was adopted, and was a successful safeguard against frauds, jobbery and defalcations.

He headed the subscription to the stock of the Cleveland, Columbus & Cincinnati Railroad Company with the sum of $5,000, and was influential in the organization and direction of this first railway project in the interest of the city.

One of the rules from which he never deviated was never to contract a debt beyond his ability to pay within two years, without depending on a sale of property.

His opportunities of buying in the early days were, of course, unlimited. He never refused to sell lands, nor placed any

obstacle to settlement and improvement by keeping large tracts out of market.

He was thus enabled to accumulate acre after acre in what has since proved to be valuable portions of the city, and to acquire a large estate, which, in his later years became steadily remunerative.

He married at Stow, Portage county, September 28, 1817, Miss Elizabeth Gaylord, a native of Middletown, Conn.

Soon after this he bought a small house and lot on Superior east of Bank street, where a block of stores belonging to Joseph Perkins' estate now stands, and resided there till 1819. Here his son William was born August 10, 1818.

IV.

From 1819 to 1826 the family lived at the corner of Bank and Superior streets, in a frame house, which accommodated, also, the Commercial Bank, of which he was president, on the lot now occupied by the block of the Mercantile National Bank.

Leonard Case, the second son, was born there June 27, 1820.

In 1826 Mr Case had moved to the beautiful homestead on the east side of the Public Square, now occupied by the post office and Case Library.

The dwelling faced the west and the business office fronted the Square nearer Rockwell street.

Mr. Case had a broad German cast of features; a lofty head, covered with an abundance of light brown or sandy Saxon hair, and his kindly eyes looked out through half opened blinds, never forbidding, but always uniform in their welcome to all without respect of person.

In those days, of the most conspicuous men in Cleveland, he seemed to stand for the solid landed interests of the Connecticut Land Company, of which he had so long been the resident agent.

There were other grand men, like Richard Winslow, from

Maine and the Carolinas, owner of great square rigged vessels like the brig Rock Mountain and the steamer Bunker Hill—pioneer of the lake merchant marine, born to large enterprises and capable of command; and Richard Hilliard, the most important merchant west of New York, the soul of honor and integrity, with over six feet of stature and the complexion of an East Indian, full of public spirit and father of the first railway projects, a Corinthian column of grace and elegance; and Harvey Rice, the tall clerk of the courts, graduate of Williams College, advocate of culture, poetry, education, father of our present public school system.

But Leonard Case, the senior, among these, appeared like a pyramid, for, although feeble physically, he was a *tower of strength*, broad, square and lofty in wisdom, character and financial stability.

He was looked up to as the source of all wisdom on all Ohio land laws, most of which he had helped to mould, and all history of his state, of which he had been a part; and there was not, probably, a man, woman or child in the town who did not feel at liberty to approach and shake his friendly hand as he sat in the carriage or in the arm chair of his office. There was a respect for his position as a broad based landed proprietor, but there was a profound regard for his wisdom which was freely given to all men, high and low; and there must have been a touch of sympathy for one who was seen to suffer daily; had always from his boyhood suffered physical pain, but was never known to complain of his affliction, except to his medical man and his family.

V.

Both of the sons, William and Leonard, were quick and diligent in study, excelled in Greek, Latin and mathematics, and both were remarkable for their cheerful disposition and fondness for athletic sports.

They attached to themselves fellows of every class, and it was enough ever after to excuse either of them for any preference or generous kindness to any of the old school fellows, that they had "ploughed Greek together."

They attended such schools as the town afforded, among them the academic school of the Rev. Colley Foster at the corner of Ontario and St. Clair streets, and afterwards, 1836 to 1838, the preparatory school of Franklin T. Backus, who was a graduate of Yale College and preparing for the profession of the law. He was fresh from the class studies, most thorough in his methods, and exacting in his requirements of students. He had also a talent for stimulating and elevating the efforts and aims of young men, and I do not believe that one of his pupils was not indebted to him for hints and training calculated to form and fortify high and manly character.

His subsequent career at the bar of Cuyahoga county evidenced great abilities, and its record is not marred by a single act unbecoming a man of the most scrupulous integrity.

Among the students, beside the Cases, were Rufus K. Winslow, John Williamson, Capt. John Klasgye, Horace and George Kelley, George Hoadley (since Governor of the state), Nicholas Bartlett (treasurer of the Lake Shore Railway), Benjamin Bartlett, Steven Whitaker, Henry C. Gaylord, Horace Weddell, the Cutters, Herman Canfield, William Sholl, John Coon, Edward McGaughy, Al. Norton, Jabez W. Fitch, H. Kirk Cushing, James D. and Thomas G. Cleveland, William and John Walworth.

In the fall of 1838 Mr. Backus used all his powers to encourage both William and Leonard Case to enter Yale. It was finally determined that William must supplement his father's strength and devote himself to active business duties, and on account of slender health avail himself of an out door nonsedentary life; but Leonard, who disliked business, entered Yale and was of the class which graduated in 1842.

William Case possessed qualities of mind of the highest order. He was remarkable for his activity, energy, elasticity, and grace of carriage.

His fondness for hunting and natural history attached to him all the hunters of the town and of the west.

This coterie of naturalists included Professor Jared P. Kirtland, of Rockport, Captain Ben. Stanard, Oliver H. Perry, William D. Cushing, son of Dr. Erastus Cushing, Rufus K. Winslow, L. M. Hubby, D. W. Cross, John Wills, Fayette Brown, Stoughton Bliss, Dr. Elisha Sterling and many others, all ardent lovers of natural history and the sports incident to it.

There were no birds or animals in Ohio or Michigan unknown to these men, and John J. Audubon, the great naturalist, gladly acknowledged his obligations to William Case for original contributions to his list of newly named and discovered birds, and for valuable knowledge of their habits and homes.

The office on the square was abandoned to the sportsmen, and a wing built to accommodate a thousand specimens of birds and beasts which they had collected, stuffed and mounted.

This collection, in time, gave origin to the names "The Ark," and the "Arkites," by which the place and its coterie became known.

Among the excursions he made in 1842 or 1843, with guides and comrades, was a voyage to and through Lake Superior, Lake of the Woods and the Red River of the North, thence down the Upper Mississippi in pursuit of new and undescribed birds and animals; thence he returned home by St. Louis and Cincinnati.

In 1844 I met William Case in Philadelphia, and spent the day with him in the splendid collection of natural history in the galleries of the Franklin Institute. You can easily appreciate the delight he evinced as he examined the grand exhibit in a field in which he was enthusiastic. "One day." said he, "Cleveland must have something like this; we will have an Academy of Natural Science, and a Library Association which shall be grand and worthy of the city; Cleveland is a chrysalis now; one of these days she shall be a butterfly!"

He had refined taste, cultivated the fine arts, indulged in pictures, and with his friend and schoolmate Rufus K. Winslow, executed very excellent specimens of watercolor painting, in which branch they were pupils of Stevenson, the artist. This facility of drawing and painting enabled him to convey to Audubon and others the colors and forms of newly discovered birds and other specimens of natural history.

In 1850 to 1852 he was mayor of the city, having been

councilman with Henry B. Payne, L. M. Hubby and others for several years. His efforts were most successful in placing the municipality on a firm and sound financial basis, and in maintaining the city's safety through the most serious popular riot which ever menaced its peace, the Homeopathic College riot in 1851.

He was most ambitious for the prosperity of the city and gave years of his most valuable energies to the purchase of the right of way for the Cleveland, Painesville & Ashtabula Railroad (afterwards consolidated with other corporations into the Lake Shore Railway Co.), and in securing in spite of the Erie city war and Pennsylvania selfishness, the uniform railway gauge and passage through to Buffalo, and his services and ability led to his being selected as the president of the Cleveland, Painesville & Ashtabula Railroad Co., which office he filled with eminent success.

When it is considered that in that early day the president of this road was an active organizer and manager, it will be easily understood how much a man of zeal, ambitious for the welfare and prosperity of his road and the city of which it was a great promoter, could and must do. He was untiring in his advocacy of new improvements and new methods; of the introduction of accommodation and suburban trains, and in making successful the only great rival which the lake steamers, then the largest and finest on this continent, had ever had for the traffic between Cleveland and the west, and Buffalo and the seaboard cities.

He was never suspected of taking a step for personal aggrandizement. His public spirit was his ruling passion. He promoted and engineered the opening of Case and Willson avenues, and contributed to the beauty of the streets by tree planting. He also planted twenty or thirty acres of land on the lake shore with ornamental and fruit trees imported from England and France to assist and stimulate their cultivation in the city.

He began in 1859 to erect a building which should accommodate the Young Men's Library Association, and the Kirtland Society of Natural History, which he had not lost sight of since I met him in Philadelphia, and of which he had been an active promoter and officer.

He had traveled with his architect, C. W. Heard, and studied

all that could aid in making the construction perfect, but, unfortunately for his townsmen, his kinsmen and all who relied upon his bright promise of public usefulness, he died of consumption in 1862, leaving the building unfinished, to be completed and devoted sacredly to the purposes he had intended, by a father and brother who shared his public spirit and approved of all his intentions.

His mother, Mrs. Case, had died August 30, 1857, soon after the removal of the family into the brick residence on Rockwell street, after the sale of the old homestead to the government.

VI.

Leonard Case, Sr., survived his son William only till December 7th, 1864.

His cotemporaries at the bar, at a public meeting alluded to one trait which was regarded as one of his crowning characteristics. After speaking with unstinted praise of his fostering influence upon the growth, beauty and institutions of our Forest City they said: "To no other man is due a greater debt of gratitude from the inhabitants of the Western Reserve.

"For many years he stood as the agent and friend between the original proprietors of the soil and the emigrants who settled upon it; faithful and just to the former, he was kind and lenient to the latter. From his position made more familiar with titles than any one else, his knowledge and assistance were always proffered to the innocent holder and sternly refused to the unjust disturber."

In spite of his bodily pain which never left him for a day since he was a boy, his industry was incessant, and the volumes of his records of transactions, of maps, accounts and correspondence were marvels of beautiful workmanship and accuracy. But what will be found most interesting and valuable is his history of his whole career, which had been so intimate a part

of the history of the Connecticut Western Reserve, which he wrote for his own inspection only, during the last decade of his life, to dispel the tedium of unoccupied hours. I have used it for authentic data in this brief sketch. Its publication some day will add vivid pictures of pioneer life, and much material for the historian of the Reserve.

VII.

The survivor, *our* Leonard Case, had graduated at Yale in 1842. His career at college had been creditable to him in every respect. He wrote frequent and lively letters to his mother, and those which have been preserved give evidence of his desire to cheer and divert her in her feeble health, and a degree of filial affection which would not have been expected from his undemonstrative nature.

He boarded in commons, and participated in Freshman fights with the Sophomores, and in riots of the students with the town firemen, in which he acknowledges getting thrashed, but, under the hammering of four opponents, considers it no disgrace.

He was thoroughly studious and devoured whole libraries of historical and general literature, and though he did not carry off honors and prizes, his classmates unite in saying that it was not because he could not have done so if he had chosen. They could only attribute his indifference to the final victory to a wish that his closest competitor should carry off a prize which would ensure a favorable start upon a career; but this is mere conjecture. It is certain that he did not neglect his opportunities, and that he excelled in mathematics and the languages; that he was most industrious and devoted to his studies, as he continued to be in after life.

From 1842 to 1844 he devoted his attention to the study of law and lectures in the Cincinnati Law School, and was admitted to the bar after the required examination.

He opened a law office, but his endeavor probably never aimed at general practice, but rather to fit himself to be useful to his father and to the estate which must at all times demand his attention.

He also largely devoted himself to literary pursuits; wrote full and racy letters when on travels, and poetry of a humorous tone on the slightest provocation and with the greatest facility.

His travels included a journey to Washington with Jacob Perkins in 1845, when they paid their respects to President Polk; a trip to Germany, Italy and Switzerland, with Prof. St. John of Western Reserve College and Prof. Loomis of Columbia College, from which he was brought home prostrated with sickness.

He had always been confident of his athletic powers, and had participated in all the games of college life.

Now he challenged his guide to a pedestrian race through the mountains and valleys of Switzerland. It was a hard contest against a hardy mountaineer, but youth and an extraordinary activity won the race. It was at a great cost. He was desperately sick with fever after it, and his courier carried him in his arms to the steamer in which he sailed from Havre, and nursed him till he delivered him safely to his friends in New York.

He made, in 1863, during the war, an excursion with a party of comrades to Knoxville while the contending forces under Burnside and Longstreet were battling and countermarching for the possession of East Tennessee.

He afterwards, in 1873, made, with friends, a journey to California, Mount Shasta and the Modoc lava beds in that vicinity, and was a guest of the United States post having in custody and charged with the execution of the Modoc chiefs condemned to be hanged for the murder of General Canby and others under a flag of truce.

He had assisted his father in many ways, especially in office work and matters of account; but while he was most expert in all map making, letter writing, record making, calculations, prolonged and persistent labor with pen and pencil, he disliked the conducting of business generally, and upon the death of his father, in 1866, he called to his assistance Henry G. Abbey, as his general business manager and confidential agent.

From that time to his death, in 1880, Mr. Case was enabled to

devote himself to studies, literary and mathematical, to the care of his precarious health, and to the chosen friends whose society he enjoyed with keenest relish.

VIII.

Mr. Abbey relieved him of all business cares and was most eminently qualified for the duties which he had been called to undertake.

He had lived in Cleveland from his infancy, and united great strength of mind to a thorough study of the law, long experience in business, knowledge of the world and a cultivated taste in literature.

He had been a practicing lawyer in Milwaukee, clerk of the Wisconsin House of Representatives, a pioneer for gold in 1849 in California; he had "rocked the cradle" on the sands of the Sacramento and Klamath rivers, and had brought back to Cleveland the net results—some gold dust and a full stock of experience. He had settled down to sober hard work in his profession, had been much trusted as a master commissioner, referee, and administrator of estates, and was a thoroughly equipped and able coadjutor of all the projects and purposes of Mr. Case in relation to the property, and all other matters requiring counsel, labor and management.

The estate was not only of such volume and varied quality, composed as it was, of city and farm lands, blocks of buildings in process of construction and under rental, situated near and remote from the centre of activity, that they involved negotiations and complications with all municipal and financial corporations; indeed with all sorts of men—capitalists, merchants, mechanics, laborers, farmers and gardeners.

The business required a very high order of administrative qualities, and put the abilities of the confidential agent and manager to the highest tension.

In these relations Mr. Abbey was so well equipped as to bring to Mr. Case the perfect relief and exemption from care and vexation about his business that he aimed at, and gave him opportunity for study and the pursuits that made his life tolerable.

His struggle with broken health was also participated in by Mr. Abbey, who was always at his side with his cheering conversational powers. He accompanied him usually on his excursions, and stood like a tower of strength between him and the aggressive and persistent pressure of worldly affairs.

No one could so well have given to you the story of that secluded life of Leonard Case—thoughtful for those he esteemed and respected, and wisely considerate for those who should come after him—as Henry Abbey could have done.

He did not do it, and we must conclude that what he did not write or say of this life was as sacred in his possession as it had been during the lifetime of a man of whom he spoke in these few but comprehensive words, "*He was the wisest and best man that I ever knew.*"

IX.

We must not suppose Leonard Case to be for a moment idle. From his earliest boyhood he was noted for his industry. He never went from home without making most elaborate histories of the incidents and accidents of his journeys; and to these are added full statistics and descriptions of all the places and persons he became acquainted with.

Many volumes of hundreds of pages each were filled with these writings, and other volumes with solutions of complicated and difficult problems which had been given out in astronomical and other journals for solution by any who could cope with the subject.

Besides these were the poetic works; among them that most admirable and witty poem "Treasure Trove," the racy and

charming mixture of comedy, tragedy and satire, written about 1860 and published in the Atlantic Monthly, and afterwards by Osgood & Co., of Boston, with spirited illustrations by Eytinge. Also a great many other shorter poems; paraphrases of Italian poesy—of which "The Swallow," a translation from Tomasso Grossi's novel "Marco Visconti" seems to show the highest poetic merit, and is by many thought to be a more successful rendering of the exquisite sentiments of the original than any of the translations made by William Cullen Bryant, and other poets.

Both of these translations, together with the original poem, were published in the Cleveland Herald after Mr. Case's death. They are now inserted here, with the appreciative comments of the editor, Mr. J. H. A. Bone, between whom and the author a long and intimate friendship had existed.

AN ITALIAN BALLAD.

About twenty-three years ago a small circle in the city, of which the late Leonard Case was a member, became interested in the study of Italian, and Grossi's novel was one of the works read. One evening Mr. Case read to the circle the following translation of the poem in the twenty-sixth chapter.

THE SWALLOW.

Little swallow, little ranger—
  Thou, to my veranda clinging—
Every morning, little stranger,
  Brings to me thy mournful singing.
    If to me thou art appealing,
    What the woe thou art revealing?

Art thou lonely watches keeping
  For a faithless mate departed?
Are thy woes like these I'm weeping,
  Little widow, broken hearted?
    Wail and wail! if thou art telling
    Grief like that my heart is swelling.

Not like thine my lot unchanging:
  Trusting thou thy pinions sailing,
O'er the lake and ledges ranging,
  Fillest thou the air with wailing—
    Calling, calling, broken hearted,
    On thy faithless mate departed.

Oh! if I—but 'tis forbidden,
  Low and narrow walls repress me,
Where the sun from me is hidden,
  Where the breeze cannot caress me,
    Whence my voice in accents hollow,
    Scarce can reach thee, little swallow.

Soon the summer will be over,
  For thy flight already trimming,
Soon, to distant lands a rover,
  Other seas and mountains skimming,
    Thou shalt waken, unavailing,
    Other echoes with thy wailing.

I, with each returning morrow,
  'Mid the frosts when snows are falling,
As I wake again to sorrow,
  Still shall think I hear thee calling:
    We together, broken hearted,
    Weep for love and hope departed.

Spring will bring thee—to discover
  On this ground a cross they've made me.
Swallow, come at eve and hover
  Where, at last to rest, they've laid me.
    Whisper peace to me departed
    When I'm buried, broken hearted.

*

Ten years afterward W. D. Howells, in a paper on "Modern Italian Poets," published in the North American Review for April, 1867, spoke of Grossi's poem as "one of the tenderest little songs in any tongue," and said it "is in the heart of most young Italians and some are old who learned it long ago." In that number of the North American Mr. Howells gave a translation of his own. In the summer of 1871 the Williams Review

contained a rendering by William Cullen Bryant, that immediately gained wide circulation. Mr. Bryant's translation is as follows:

THE SWALLOW.

Swallow from beyond the sea!
  That with every dawning day,
Sitting on the balcony,
  Utterest that plaintive lay—
What is that thou tellest me,
Swallow from beyond the sea?

Haply thou for him who went
  From thee and forgot his mate,
Do'st lament to my lament,
  Widowed, lonely, desolate.
Even then lament with me,
Swallow from beyond the sea!

Happier yet art thou than I:
  Thee thy trusty wings may bear,
Over lake and cliff to fly,
  Filling with thy cries the air,
Calling him continually,
Swallow from beyond the sea.

Could I too!—but I must pine,
  In this dungeon close and low,
Where the sun can never shine,
  Where the breeze can never blow.
Whence my voice scarce reaches thee,
Swallow from beyond the sea!

Now September days are near,
  Thou to distant lands will fly.
In another hemisphere
  Other streams shall hear thy cry,
Other hills shall answer thee,
Swallow from beyond the sea!

Then shall I when daylight glows,
  Waking to the sense of pain,
Midst the wintry frosts and snows,
  Think I hear thy notes again—

Notes that seem to grieve for me,
Swallow from beyond the sea!

Planted here upon the ground
  Thou shalt find a cross in spring;
There, as evening gathers round,
  Swallow come and rest thy wing;
Chant a strain of peace to me,
Swallow from beyond the sea!

Those of our readers who can read Italian will be interested in comparing the two versions with the original and noticing the peculiarities of each.

RONDINELLA.

Rondinella pellegrina,
  Che ti posi in sul verone.
  Ricantando ogni mattina
  Quella flebile canzone.
  Che vuoi dirmi in tua favella,
  Pellegrina rondinella.

Solitaria nell' oblio,
  Dal tuo sposo abbandonata,
  Piangi forse al pianto mio
  Vedovetta sconsolata?
  Piangi, piangi, in tua favella,
  Pellegrina rondinella.

Pur di me manco infelice
  Tu alle penne abnen t'affidi,
  Scorri il lago e la pendice,
  Empi l'aria de'tuoi gridi
  Tut to il giorno in tua favella
  Lui chiamando, o rondinella.

Oh se anch'io!—Ma lo contende
  Questa bassa, augusta volta,
  Dove sole non risplende,
  Dove l'aria aucer m'e loita,
  Donde a te la mia favella
  Guinge appena, o rondinella.

Il settembre innanzi viene,
E a lasciarmi ti prepari;
Tu vedrai lontane arene;
Nuovi monti, nuovi mari
Salutando in tua favella,
Pellegrina rondinella.

Ed io tutte te mattine
Riaprendo gli occhi al pianto,
Fra le nevi e fra le brine
Credero n'udir quel canto,
Onde par che in tua favella
Mi compianga, o rondinella.

Una croce a primavera
Troverai su questo suolo;
Rondinella, in su la sera
Soora lei raccogli il volo;
Dimmi pace in tua favella.
Pellegrina rondinella.

It will be seen on careful examination that the version of Mr. Case is more literal than that of Mr. Bryant, whilst still graceful in style and poetic in language, and that the double rhymes of the original are carefully preserved in the Case version whilst completely ignored in that of Bryant.

LEONARD CASE'S MILKMAID.

Until the publication some years ago, first in the Atlantic Monthly and subsequently in a handsomely illustrated volume, of the semi-humorous narrative poem, "Treasure Trove," none but the most intimate associates of the late Leonard Case knew that among his many accomplishments was that of verse-making. A mathematician of rare ability—this, too, was known only to a select circle of friends—he combined with this the faculty of making verses that exhibited not only considerable technical skill, but also a sportive fancy and poetic expression. "Treasure Trove"

was his longest effort, and those who have read it and admired its easy flow and its many quaint conceits and bits of sly humor must have sometimes wondered why he did no more of the kind, or that he could have done it at all. The charming little translation of "The Swallow" from the Italian, which was first printed in the HERALD after his death, showed that he had the true poetic feeling as well as ability of expression.

The origin of these poems, or diversions in verse as they might perhaps more properly be called, was peculiar and characteristic of the man. In discussing the subject of poetry with intimate friends he stubbornly maintained that there was no such thing as poetic genius; that all that was necessary to the production of at least the average poem was practice and a good rhyming dictionary. The proposition was scouted as absurd by the other parties to the discussion, but Mr. Case maintained his point and insisted that he could prove it by actual experience. No one would accuse him of the slightest taint of poetic genius, but he would see what could be done. The result was "Treasure Trove." The question ever since with those acquainted with the facts has been, whether he did or did not prove his proposition. Was "Treasure Trove" a mere labor of mental mechanics, like a mathematical calculation, or did poetic inspiration play its part? Was Mr. Case's theory with its demonstration but another of the mystifications with which he sometimes amused himself and puzzled his friends?

Another illustration of his theory was offered in a trifle suggested by the story in the old Webster's Speller of the "Country Maid and Her Milk Pail." In one of his periods of "busy idleness"—for Mr. Case was never idle, though many of those unacquainted with his ways supposed him to rarely occupy himself—he amused himself with throwing the story into verse and tacking to it some fanciful "morals." This was known only to a very few intimate friends, and we do not know of a copy ever being made. The original, written in the beautiful small and clear hand which distinguished Mr. Case's penmanship, was found among his papers, at the head of the verses being a neatly executed pencil sketch of the milkmaid and her pail. The following is a verbatim copy of the verses, which are now for the first time printed:

THE COUNTRY MAID AND HER MILK PAIL.

A milkmaid, once upon a day—
No matter when, or where
This thing befell; suppose I say
It happened "then and there,"
With dates and names I'm not concerned;
I know it all was true.
'Twas in the book from which I learned
My a-e-i-o-u.—
Along a lane, with pace demure—
I cannot say she skipped,
In maiden style; for so I'm sure,
Her milk pail must have tipped.—
Along the lane, which from the farm
Unto the dairy led,
She bore her pail; not on her arm,
But balanced on her head.
Although her head was heavy, out,
'Twas very light within;
And idle fancy set about
Its idle webs to spin.
Now, what the webs such fancies weave,
Would not be hard to guess;
For, since the fall, like Mother Eve,
All think, first thing, of dress.
And some believe, who are above
A slander on the fair,
That woman's strongest trait is love—
Of something new to wear.
Awhile she mused on gay attire,
And saw herself in silk;
Then thought how much it might require—
Which brought her to her milk.
"Now, let me see: this milk when sold
Will give, with what I've got,
Enough to make my eggs, all told,
Three hundred in the lot."
[Excuse me here; I cannot well
Explain precisely how
She had a right that milk to sell,
Unless she owned the cow.]

"But eggs will stale, and vermin steal—
Well, I could be 'all hunks,'
And throw off fifty—that's a deal—
For addles, rats and skunks,
And fifty out would leave a batch
Of five and twenty tens,
'As sure as eggs is eggs,' to hatch,
And grow to cocks and hens.
Oh, yes! I almost see the throngs
Of fancy fowls I'll raise,—
Of Cochins, Brahmas, Chittagongs,
And Dorkings and Malays.
'Tis summer now, and they shall grow
To be in just their prime,
And ready for a market show,
About next Christmas time;
When some, who buy our poultry, pay
Plump prices for the large;
And when we have what must outweigh
Their neighbor's, we can charge.
So, May-day next, I'll have, cash down—
All gained from eggs and milk!
Enough to buy a bran new gown
Of gaily colored silk.
The color—green? I've always guessed,
When colors I have seen,
That green would suit my style the best—
Oh yes, it shall be green!
When next our fair-day comes, I'll go,
Arrayed in silk attire,
And watch the lasses sneer—and know
They cannot but admire!
And when the fellows flock about,
All rivals for my hand,
To join the dance, *perhaps* I'll flout,
And make them *understand!*
I might a pretty triumph gain,
To tell the fellows, No,
And fling away in fine disdain,
And toss my head—just so."

She tossed her head—then made a bound!
For—horror!—something splashed!
She saw, and swooned! for, on the ground,
Her milk and hopes were dashed!!

Now this fable should furnish us
MORALS,
because
There are "sermons in stones"; and by parity, straws,
Only studied aright, may be found to have lessons—
Not so heavy as sermons, but lighter and less ones.
At the least 'tis a proverb, as every one knows—
"Straws show," if we watch them, "which way the wind blows."
So, I'll toss up the fable awhile, for diversion—
As it veers with the "wind," I must vary the version.

* * * * * * * *

In life's walk, never suffer your fancy to revel,
But look out for "what's up," do your best "on the level."

Should reverses befall you beyond your retrieving;
It is better to up and be doing, than grieving;
For your friends would be certain to call you a "spoon" for it,—
Never "cry for spilt milk," above all never swoon for it.

Never seem over anxious to go better dressed
Than your neighbors; one slip, and you're only their jest.
If your head should be turned with the things you may get on it,
You'll in some way betray you're a fool—you may bet on it!

Don't suppose that the fellows will flutter, and crowd
To besiege you, because you are dressed "very loud,"
For they *may*—seeing more than the silk, though the hue
Of the silk is the brightest—see YOU, through and through.
To convey you the moral more clearly, I mean in it—
They may shy at a dress, if there's TOO MUCH OF GREEN IN IT.

Should your fancy present you some plausible scheme,
Very fine—in the future; from this it would seem
That you ought to be careful to tighten your grip
On the good that you HAVE; for perhaps it may slip
From your grasp, while you find at a phantom you've snatched,
And have counted your chickens BEFORE THEY ARE HATCHED!!

The following extracts from "Treasure Trove" will give a taste of its varied style and flavor, but will not convey the beauty and piquancy which characterize the whole poem.

Who has not heard of the Lion King
Who made the harps of the minstrels ring?
Oh, well they might imagine it
Hard for chivalry's ranks to show
A knight more gallant to face a foe,
With a firmer lance or a heavier blow,
Than Richard I. Plantagenet;

Or gayer withal: for he loved his joke,
As well as he loved, with slashing stroke,
The haughtiest helm to hack at:
Wine or blood he laughingly poured;
'Twas a lightsome word or a heavy sword,
As he found a foe or a festive board,
With a skull or a joke to crack at.

Yet some their candid belief avow,
That, if Richard lived in England now,
And his lot were only a common one,
He ne'er had meddled with kings or states,
But might have been a bruiser of pates
And champion now of the "heavy weights,"—
A first-rate "Fighting Phenomenon."

After the siege and capture of the Castle of Chalus, at which Richard receives a mortal wound from an archer—who is taken prisoner—the last hours of Richard are told in the following lines:

On a silken pallet lying, under hangings stiff with gold,
Now is Cœur-de-Lion sighing, weakly sighing, he the bold!
For with riches, power and glory now forever he must part.
They have told him he is dying. Keen remorse is at his heart.
Life is grateful, life is glorious, with the pulses bounding high
In a warrior frame victorious: it were easy so to die.
Yet to die is fearful ever; oh, how fearful when the sum
Of the past is only murder,—and a fearful world to come!
Where are now the wretched victims of his wrath. The deed is done.
He has conquered. They have suffered. Yonder, blackening in the sun,
From the battlements they're hanging. Little joy it gives to him
Now to see the work of vengeance, when his eye is growing dim!
One was saved,—the daring bowman who the fatal arrow sped;
He was saved, but not for mercy; better numbered with the dead!
Now, relenting, late repenting, Richard turns to Marcadee,
Saying, "Haste, before I waver, bring the captive youth to me."

He is brought, his feet in fetters, heavy shackles on his hands,
And, with eye unflinching, gazing on the king, erect he stands.
He is gazing not in anger, not for insult not for show;
But his soul, before its leaving, Richard's very soul would know.
Death is certain,—death by torture: death for him can have no sting,
If that arrow did its duty,—if he share it with the king.
Were he trembling or defiant, were he less or more than bold,
Once again to vengeful fury would he rouse the fiend of old
That in Richard's breast is lurking, ready once again to spring.
Dreading now that vengeful spirit, with a wavering voice, the king
Questions impotently, wildly: "Prisoner, tell me, what of ill
Ever I have done to thee or thine, that me thou wouldest kill?"
Higher, prouder still he bears him; o'er his countenance appear,
Flitting quickly, looks of wonder and of scorn; what does he hear?

"And dost thou ask me man of blood, what evil thou hast done?
Hast thou so soon forgot thy vow to hang each mother's son?
No! oft as thou hast broken vows, I know them to be strong,
Whene'er thy pride or lust or hate has sworn to do a wrong.
But churls should bow to right divine of kings, for good or ill,
And bare their necks to axe or rope if 'twere thy royal will?
Ah, hadst thou Richard, yet to learn the very meanest thing
That crawls the earth, in self-defense would turn upon a king?
'Yet deem not 'twas the hope of life which led me to the deed:
I'd freely lose a thousand lives to make thee tyrant bleed!—
Aye? mark me well, canst thou not see somewhat of old Bertrand?
My father good! my brothers dear! all murdered by thy hand!
Yes, one escaped; he saw thee strike, he saw his kindred die,
And breathed a vow, a burning vow of vengeance,—it was I!
I've lived; but all my life has been a memory of the slain;
I've lived but to revenge them,—and I have not lived in vain!
I read it in thy haggard face, the hour is drawing nigh
When power and wealth can aid thee not,—when Richard thou must DIE!
What mean those pale convulsive lips? What means that shrinking brow?
Ha! Richard of the lion-heart, thou art a coward now!
Now call thy hireling ruffians; bid them bring the cord and rack,
And bid them strain these limbs of mine until the sinews crack;
And bid them tear the quivering flesh, break one by one each bone;
Thou canst not break my spirit, though thou mayst compel a groan.
I die, as I would live and die, the ever bold and free;
And I shall die with joy, to think I've rid the world of thee."

Swords are starting from their scabbards, grim and hardened warriors wait
Richard's slightest word or gesture that may seal the bowman's fate.

But his memory has been busy with the deeds of other times.
In the eyes of wakened conscience all his glories turn to crimes,
And his crimes to something monstrous; worlds were little now to give
In atonement for the least. He cries in anguish, "Let him live.
He has reason; never treason more became a traitor bold.
Youth, forgive as I forgive thee! Give him freedom,—give him gold.
Marcadee, be sure, obey me; 'tis the last the dying hest
Of a monarch who is sinking, sinking fast,—oh, not to rest!
Haply, He above remembering, may relieve my dark despair
With a ray of hope to light the gloom when I am suffering—there!"

X.

There were some traits by which Leonard Case was distinguished from many other men of wealth whom we have known. Before he left school to go to college, his fellow students began to know him as one who hadn't a selfish thought. He loved to win in any athletic sport, and he generally did in any feat of running, jumping, or test of active energy.

He loved to win, too, by the excellence of his standing in recitation; but there were instances when he was known to have failed in this contest when no reason could be suspected except that he was not willing to win at the expense of another fellow's feelings and ambition—but that was only a suspicion; no one knew it from Leonard.

There was no doubt, however, about his generosity. Books were expensive in those days, and when he gave away a Greek Reader, or Cicero, or Virgil to the boys of the lower classes whose fathers were in poor circumstances, and wouldn't wait to be thanked, it was a surprise of which they were in after years reminded by his greater generosities. He was never known, I think, to make a gift without care being taken that it should not have unnecessary publicity.

If there was anything he hated and despised it was public mention of his gifts, and he disliked to have any expression of

gratitude from those upon whom he conferred benefactions. He studied concealment of these, and his stratagems to secretly convey gifts to deserving objects were most ingenious.

When the great forest fires destroyed the settlers' cabins, barns, crops and cattle in the Saginaw Bay counties of eastern Michigan in 1870, and the sympathy of all the lake cities was aroused, Woods, Perry & Co., lumber merchants in this city, offered to transport and distribute the contributions of the citizens free.

A steam barge took a cargo of provisions, building materials, household goods, tools and bedding, gifts of the people. When the barge was loading, one of the partners was approached by Mr. Case, who was, to him, a stranger, and after a few questions to ascertain whether money could be distributed, he said he had hunted in that country and had been hospitably entertained at many of the cabins of the settlers. He did not wish to send aid to any particular one, but to those most in distress, and he laid on the desk his check for a handsome sum—the largest that had been given. Mr. Perry told him that his wishes should be carried out carefully, and that the contribution would appear in the *Leader* on the next day, with others. Mr. Case took back the check at once and said very firmly: "This can go only on the condition that it be kept from any publicity in the newspapers." Of course it went.

When Mr. Andrew Freese, the first superintendent of the high school, whom Mr. Case held in high regard, came to him to ask him to send a lad to college, a lad who was poor but burned with a thirst for a better education, Mr. Case told him he would not *give* the boy the amount necessary, but he would *lend* it, and it must never be spoken of except as a loan; and the terms had but one other condition—that the lad should loan an equal amount to some other boy for the same purpose, when he should come to such success in life as would allow him to do it. Mr. Freese told me that the boy went to college on these terms.

So skillfully and ingeniously did he sometimes manage the giving, that his gifts seemed to the recipients to come from the sky, and there seems to be an indelicacy in our now speaking aloud of some which raised clouds of sadness from whole families, and brightened lives that, otherwise, would have known no sunshine.

There were surprises given to the worn out minister which told him to go and take a rest in the Green Mountains; and checks to the chaplain of the Bethel that gave him a vacation on the seaboard, and their surprise and enjoyment was his benediction. His confidence and regard for the wisdom and goodness of Dr. Goodrich, pastor of the Old Stone Church, was such that he gave the doctor liberty to draw on him at any time for such amounts as he thought Mr. Case ought to contribute to any case of distress within his parish.

He never made any demonstration of religion, but these things speak louder than words, that he had respect for religious teachers and charitable women, and a full estimation of the work they do in elevating mankind. Nor did he allow any display of hard conditions in his most important gifts; for instance, the endowment of the Case Library Association of twenty thousand dollars, which was done by Mr. Abbey's simple act of laying down twenty U. S. bonds of one thousand dollars each on the table of the society's treasurer, without a condition or a receipt, marginal note or practical observation to mark so important a benefaction.

In 1876 he conveyed the Library Building and Case Hall to the Library Association, with no reservations except the rights of existing leases, one of which was to his chosen friends the "Arkites;" and it need hardly be mentioned here, for it can never be forgotten that he gave to the Cleveland Orphan Asylum the ground on St. Clair street on which its present elegant home is situated; and large additions to the acreage occupied by the Home of the Industrial Aid Society on Detroit street.

It has always seemed sigularly interesting, the beginning of another phase in his life. At the book store of Cobb Brothers there appeared one day in 1865, a plain young man with a rustic air who enquired of the senior brother if they had that work of the great astronomer LA PLACE of France, The "*Mechanique Celeste.*" Mr. Cobb was astounded. It was the first time he had ever had such a call for a work he had himself only read of in the scientific catalogues. When he had taken in the seriousness of the young man's enquiry he told him that they not only had not the work, but it was doubtful if there was a copy on the continent outside of the college libraries, or in the observatories

where astronomers were found who could use it. The young man said he wished he would ascertain.

Mr. Cobb promised, and the youth left his name and his residence on a Brecksville farm.

Mr. Case coming in soon after, Mr. Cobb told him of the unusual enquiry. Mr. Case said he had the work and wondered what manner of man was he who sought a book only known to the astronomers and mathematicians.

He rode fifteen miles the next morning and made the most gratifying discovery of his life. It is said that the greatest discovery that Sir Humphrey Davy made was the discovery of Farraday; so the happiest discovery that Leonard Case made was that of John N. Stockwell, and what came of it should be told by one who knows the results of the close friendship of these two men.

Months and years were occupied in associated study, and in calculations of problems incident to the movements of the heavenly bodies; measuring planetary influences, and striving to give greater accuracy to the predictions of the celestial phenomena. These results were published at great cost by Mr. Case. They can only be read and tested by a few men—astronomers who are able to cope with the subjects; but they have added to the common stock of knowledge in America and Europe, and reflected credit upon the authors and the city from which they were sent forth.

XI.

In 1876 the project of devoting a share of his estate to the founding of a scientific school seems to have been fully perfected. It is not necessary to enquire whether the idea was entirely original with him. It was foreshadowed by his father's expressions of a desire to do something for the education of indigent youth, having been taught by the struggles of his early life how

bitter is the lot of men who, born with a divine thirst for knowledge, are unable to attain it; and it was foreshadowed by the half formed projects of Wm. Case, who lived, moved, and had his highest enjoyment in anticipations of libraries, galleries and museums of art and natural history; projects unrealized, but never forgotten by the surviving brother.

It remained for Leonard, the last one of his family, to fully and carefully devise a plan by which he would benefit the youth of his native city.

It was a work to which he brought the most generous spirit, a long foresight of the future wants of a country expanding and developing untold resources of mines and manufactures, and a religious regard for the honor and wishes of his father, and the enthusiastic projects of his brother.

He sought every aid for the development of his thought by consulting others who had wisdom, experience, and love of learning. He corresponded with Dr. John S. Newberry of the School of Mines, Columbia College, and other eminent educators in this country, all of whom confirmed him in his determination to found a School of Applied Science.

He believed that he could do most to express the debt of gratitude which his father always acknowledged to be owing to the city in which he had prospered, by extending a helping hand to those who were making a start in life. He had begun to do this in occasional instances; now he would put the business upon a broad and well founded basis, equipped and fortified for all future time. He believed that he could devise nothing better for the youth of Cleveland and his state than to provide them with the means of obtaining at their very doors, a sound, extensive and practical scientific knowledge.

He thought that colleges which only aimed at the culture of men by long years of devotion to the ancient Greek and Latin literature and mathematics, ought to be supplemented by schools where the application of pure science to particular classes of problems would meet the demand of an age of progress in manufactures, arts, mining, railroads, and electrical engineering, and enable men to unlock the secrets of nature and our country's hidden resources.

He hoped to enable every lad whose capacity, ambition and

strength of fibre were sufficient to pull him through the grammar and high schools of the city, and to profit by the opportunities offered him by a scientific school, to step at once into the practical application of all his knowledge and culture to the problems with which a daring, aggressive, energetic people were already wrestling.

The country was full of minerals and coals, and all the incidents of transportation and manufactures required engineering, chemistry, science, to give perfection and success to the forces and processes to be used. Men must be thoroughly trained to do good work, and good work is alone of any value. Others must be trained for original investigation; to carry the light into the darkest and remotest secret of the natural world, which gives up its best and most valuable things only to the hardest fighters, the most persistent brain, the most untiring searcher after truth.

He had faith in the theory that it was better to build up strong, intellectual, practical men than to pile marble monuments to the skies. It was godlike to endow a man for time and eternity; the monument was but the perishable plaything of mortal man. More than this—that the work of such men, ambitious to discover and explore, to spread abroad the knowledge of their conquests over material things, and their crucial tests of truth, was only excelled in value by another result—the elevating, purifying influence which highly educated men, loyal to truth and superior to mere mercenary motives—always radiate over and through the community in which they live.

Who can estimate the influence of the life of such a man as Agassiz, or of the sentiments he illustrated when he replied to the tempting offers of men who told him he could make a fortune by a lecturing tour through the country—by saying, simply, "I cannot afford to waste time in making money."

To the foundation of a school of applied science, then, Leonard Case resolved to devote a handsome share of his fortune, leaving another large share for the law to distribute among his father's kinsmen.

He availed himself of the counsel of the Honorable Judge Rufus P. Ranney and his careful drafting of the legal papers to ensure the proper limitations of the trust, and perpetuity of the benefaction.

On February 24, 1877, he delivered the trust deed to Mr. Henry G. Abbey which invested him with the title of lands to endow "The Case School of Applied Science" in the city of Cleveland, in which should be taught by competent teachers, mathematics, physics, engineering, mechanical and civil, chemistry, economic geology, mining and metallurgy, natural history, drawing and modern languages, and such other kindred branches of learning as the trustees of said institution might deem advisable.

As there was nothing he disliked more than notoriety, and especially such notoriety as is won by apparently ostentatious deeds of benevolence, the course he took in this matter effectually prevented any public knowledge of his purpose until he was beyond the reach of any public or individual gratitude.

His death occurred January 6, 1880. By an unremitting battle with disease he succeeded in reaching nearly his sixtieth year. For the last six or eight years, however, it had been a struggle for mere existence, his broken health gradually but surely declining in spite of the best care and highest medical skill.

That day one of his oldest friends paid this tribute to his character: "Those who knew him well must say that no *kinder-hearted*, no *truer* friend had lived than LEONARD CASE; and nowhere could be found a man more worthy of the name of *gentleman*, in its highest sense."

"The actions of the just
Smell sweet, and blossom in the dust."

JAMES D. CLEVELAND.

Tract No. 80.
WESTERN RESERVE HISTORICAL SOCIETY,
Cleveland, Ohio.

History of Man in Ohio.

A PANORAMA.

An Address Delivered at Norwalk, Ohio, Before the Firelands Historical Society on the 25th Day of June, 1890.

— by —

Judge C. C. BALDWIN,

President of the Western Reserve Historical Society.

History of Man in Ohio.

A PANORAMA.

MR. HERBERT SPENCER has a happy way of so saying things, that they appear, after he has spoken, to be self-evident. In his very readable little book on Education, he speaks of the importance of history, the summing of past experience ; while as told for students, all that is most important or interesting is generally omitted and there are summaries and narratives of lives of kings or nobles, long accounts of battles, from which little resulted to the race—while modes of life, dress, food, industries, thought, speech, civil government and beliefs are left untold. After some striking examples of the uselessness of history as generally written Mr. Spencer continues : "That which constitutes history proper, so called, is in great part omitted from works on the subject ; only of late years have historians commenced giving us in any considerable quantity the truly valuable information. As in past ages the king was everything and the people nothing ; so in past histories the doings of the king filled the entire picture, to which the national life forms but an obscure background ; while only now, when the welfare of nations rather than of rulers is becoming the dominant idea, are historians beginning to occupy themselves with the phenomena of social progress. That which really concerns us to know is the natural history of society."

Great changes have taken place in the study of history within a few years. It may be that the recent students have come to it with views too utilitarian, but the revolution is quite complete and happy. To thoroughly understand even some small topic is more interesting and useful than a table of dates.

The advantages and pleasures of history should be near akin to those of foreign travel and arise from a contrast of different lives and modes of lives. He who thoroughly understands a past period of his own country has traveled abroad. A thorough contrast of two periods is worth more than the continuity of narratives. Hence the favorite study now of epochs. It is the life and character of man that interests us and his actions in unusual scenes, new to us, delight us. More and more are we studying man as man and his primeval state, as we learn more of it, becomes more and more fascinating. To study the complete genealogy of man and nations is too great a task. It is the whole experience of all mankind, and hogsheads of ink and an eternity of time would hardly suffice. Happy then for the pleasure of an original research and romantic interest in history is that country, which, within a few years, has passed from a complete savagery to the most complete civilization. I speak advisedly and thoughtfully when I say that nowhere on the globe is the pursuit of history, I will not call it study, so easily profitable and interesting as in Ohio.

The first we know of your favored Firelands, as they are approaching from geology to history, is just previous to the ice age. There was then no Lake Erie. It is now a shallow lake, except in the lower end, rarely

over 120 feet deep; the middle portion from Point Pelee Island to Long Point is level and from sixty to seventy feet below the surface of the water. Beyond Long Point it is deeper. The channels of the pre-glacial rivers flowing towards it were about as deep as it. That of the Cuyahoga was 150 feet or more deeper than now. Your pre-glacial channels were likely more shallow. The river flowing to the east of Lake Erie was north of the present Niagara and had no falls of consequence. The bed of Lake Erie must have been a wide and very level plain with a river somewhere through it.* The country before us had little soil and deep, wide valleys to its streams. But there took place one of the most inexplicable changes of climate on our globe. Nearly the whole North seems to have been covered with a continent of ice, moving in a southerly direction, bearing with it stones and dirt and leaving behind it a country much more fertile than it had found.

The limits of that ice sheet on the south entered the east of Ohio at its middle and going irregularly to the south-west, entered Kentucky east of Cincinnati, and west of that city entered Indiana. It made a great dam at Cincinnati, five or six hundred feet high, forming a great lake called by its discoverer, Professor G. F. Wright, of Oberlin, Lake Ohio. Any one who will contrast the fertility of your soil with that in southeast Obio, will see that that ice sheet had much to do with

*Since the above was written I notice a new and well fortified theory of Professor J. W. Spencer that there were two distinct rivers, one draining the eastern part of the present bed of the lake and the other draining the western part of the present bed, the last flowing towards Lake Huron.

your history and position. The limit reached by the ice is well marked and plain, so that one can stand upon it and look on either side. No easier example of the influence of nature upon man can be had than by travel up one road and down another, to zigzag the terminal moraine. On the north are rich fertile farms covered with the best of soil for wheat, and generally entirely covered with wheat; the fine houses and still larger barns tell what the ice did for Ohio; while on the other side of the line, there is very little wheat and grass instead, many of the houses are small and unpainted, and the small barns are dilapidated.

The north of the line has a wide rolling scenery with a horizon miles around inviting one to a similar scene from it.

The south is more broken; deep narrow valleys, high rugged hills and narrow horizon. The instant and total contrast will not be forgotton by one who sees it. The pre-glacial surface is hard indeed for railroads that do not follow valleys or streams, and nearly all the commerce of a thousand miles from north and south of the great west, passes through the sixty miles from Lake Erie to the southern glacial limit.

No region is so favored as your own, in its beautiful examples of ice-rock sculpture, within and just by your limits. That fine steamer, the City of Cleveland, two years ago carried nearly all the leading scientists of the country to Kelley's Island to see there the beautiful grooves in the limestone. Prof. Wright's splendid volume on the Ice Age in North America, partly written on your soil, has much of Ohio and almost photo-

graphic illustrations of what is within the easy personal reach of each of you.

The other islands than Kelley's are remarkably covered, and Starved Island with its planed striated surface, the huge boulders where the retreating ice dropped them, and the amazing channel cut through it twenty feet wide by at least six and a half feet deep, seems almost like supernatural work. It is almost a fairy island. It is well worth while for some of you, to study your wonderful subterranean streams, occasionally showing their place. What reason have these fascinating rivers for their existence and locality? Are they in the site, perhaps at the bottom of the old pre-glacial channels, and were they covered by the boulder clay of the ice period? It seems not improbable, and perhaps some local person will study it out, as in Cuyahoga county, Dr. Gould, a druggist of Berea, has studied out the pre-glacial channel of Rocky river. His method and the result, appear in one of the publications of the Historical Society of Cleveland, to be found in the library of your society.*

The Ice Age brought to your vicinity the first pioneers from another country, your boulders. The American Association visited last year the original home of many of these strangers, and I am told that the rocks of Georgian Bay look quite familiar to the friends of these boulders. That would be from a direction a little east of north, yet it happened some years ago that a young girl picked up upon the beach at Middle Bass Island a rock of worn jasper pebbles imbedded

*Tract Number 70.

in white quartz, which unmistakably came from Lake Superior. It was also found by Professor Wright in Kentucky below Cincinnati. The same is in my yard, brought down by a vessel. This is not too far back for the history of man, for while this was going on here, a little south of the ice, streams were depositing gravel, and deep in that gravel, deposited when it was laid, are the undoubted implements of glacial man, following up the ice. It is not my purpose to describe him. What may be found of him, here, as the ice retreated, is not known, but it may safely be presumed that the earliest known man knew something of your vicinity. His tools of flint, chert or argillite were very simple and few. His learning was the slightest. But what is of great interest is, that he seems to have been in Europe as here, and with very similar life and tools. In both continents he seems to have improved little and to have disappeared. There is not yet proved any gradual advance by him to a higher civilization. The American was so like his European brother that one may well believe them near akin.

His mark upon the earth was so small, that high authority believes that some catastrophe overwhelmed him altogether; but perhaps it only happened that some civilized man raised him at once to a higher civilization, perhaps in a servile condition.

No temperate region in the world affords a finer field for the study of that glacial age than Ohio.

If either glacial man was our ancestor, it was he of Europe, but study of his condition seems here much the same as there.

As the ice retreats, and before Niagara river was as it is now, the lake ridges formed the lake bed, and the immediate surface of the northern part of the Firelands was determined by that fact.

In the South one may sometimes see on *all* the surface, the evidence of the ice; while in the North underneath the rearrangement made by Lake Erie, is found pure boulder clay or other ice deposit. Where now the tunnel is being constructed by the city of Cleveland, to reach pure water, there is till filled with stones, with planed and scratched surfaces, each giving unmistakable evidence of its origin.

But as said, glacial man disappeared, in relics suddenly, here as in Europe, but very likely here as there overcome by a superior civilization from the south. After the Ohio had broken the dam at Cincinnati and regained its former channel; after the plateaus had been formed and the surface of Ohio became as it is at present, there appeared a new man, the Mound Builder. He *was* a mound builder. Nowhere on the globe are there so many and such large earthworks as those in Ohio; vast mounds of all shapes and sizes; vast squares and circles and astonishing fortifications. Any one who stands within the vast earth circle of Newark, or travels the ten miles of earthworks at Fort Ancient, deems them a wonderful people, who patiently carried together in baskets that vast earth.

The Firelands were again on the fringe. The Mound Builders loved corn, and the southern fertile valleys of Ohio, which are to-day full of their finest work, are to-day, as perhaps then, covered with the finest of that

cereal. Undoubted Mound Builder works, but smaller and less in number, may be found in Northern Ohio. There is nothing* to connect them with migration to or from Mexico. Weapons and tools of rubbed and chipped stone; copper pounded but not cast, and galena not melted to lead, though both were sometimes placed on funeral pyres, unglazed pottery, no burned bricks, no stone buildings, nor stone hardly ever used even to lay in forts otherwise that as dirt was used; using baskets to carry dirt, making a very coarse cloth or matting, having no alphabet; they must have been industrious and agricultural or they could not have built such immense works. Living mainly on corn, with a government strong enough to combine them patiently, probably through priestly superstition, their civilization was not higher than some Indians when America was discovered. It is said that the mystery of them is to be removed, but how?

Shawnees were in Ohio and builded the stone graves. Cherokees were there and were buried there; but how much work they did may not be easily known.

But could this tribe of Iroquois stock, wild, savage, fierce beyond measure, living by the chase, have had such sedentary habits as some Mound Builders must have had? The mystery around them may and no doubt will be dispelled in part; but not so far but that there will be patent mysteries beyond. Their works were extensive, and probably they came into Ohio from

*High authorities think differently but it is theory rather than evidence that gives currency to such a belief unless I am wrong.

the south or southwest ; the continuity of works is in that direction. What more natural or probable than that they were displaced, or pushed to the south, by these northern invaders, and that their descendants lived in the South? Nor was there anything in the life, habits or character of the Indians inhabiting the South of our country when it was first founded, inconsistent with such a supposition, and in deed, much to support it.

Here again was repeated the story of Europe. Civilization had come from the South ; in America more feeble and less. Southern Europe and its relations to other countries, were all favorable to education. In Europe, the civilization of the South had gained from surrounding and older countries, connected, rather than separated by water.

The situation of the countries around the Mediterranean was singularly favorable to mental growth and education. The more the south of Europe is studied, the more is its early indebtedness to Phœnecia and Africa proved. Besides, Europe was blessed with such animals, as were easily tamed and best adapted for man's use ; while America, an older continent, seemed more unfortunate. And Europe had access to three continents, and to vast changes in climate and conditions. Here, as in Europe, the Northern overran the Southern. In Europe he was conquered by the southern civilization, though not by the southern people, as there was not such difference in the character of that civilization as to subdue him.

Another curious parallel seems likely to be proved between Europe and America. Professor Putman, for

the Peabody museum, has restored to its primitive condition the famous Serpent Mound of Ohio. He has also there made extensive excavations and has unearthed many Mound Builders. Most of these seemed to have been round headed men, or as better suits the scientist, *brachy cephalic*, though perhaps not always so.

The modern Indians of the north are *dolicho cephalic*, or long headed. So that in the main, the invaders of the North, a long headed race, rolled upon a southern round headed race. Such was also the case in Europe, but there, the lines were not so closely drawn but that, though the statement was true in the main, it was not a universal fact.

With these savage conquerers, the Firelands first emerge to history, by relation of eye witness. For the word pre-historic grows more and more improper. The past, even if there is no direct relation of actors, emerges more and more into light and truth.

There is no satisfactory evidence of any intermediate race between the Mound Builders and the modern Northern Indian. If we believe the earth, the ancestors of Indians who inhabited Ohio, in historic times, met the Mound Builders. The evidence seems quite satisfactory that these Indians came from the North, primarily from the Northwest. There were two races, the Huron Iroquois and the Algonquins. The former were related in language to the Dakota or Sioux, so that there came from the north two great divisions of savage tribes. It seems not improbable that both met the Mound Builders.

This new race coming into historic view upon the Firelands is of interest. He is the man met by our own

grandfathers and dispossessed, and rightfully dispossessed by them. For, without adhering to any theory of Henry George, we may safely believe that people are not entitled to such wasteful use of land as that of the Indian.

It is a race worth studying in itself; a fine sample of primitive man; not so debased as degenerated tribes of warmer climates; comparatively simple in its religious beliefs; superstitious, timid and courageous; bold, proud men of the *new stone age*, of the *neolithic*, as said by scientific men who value science more when clothed in forgotten language. The Mound Builders and the modern Indian belong to that age, distinguished in Europe from the *pæleolithic*—old stone or glacial man.

It may be of interest to see what kind of men they were, of the neolithic age, who were our own ancestors. Cæsar met them and described them, and they were savages; though then more advanced than our Indians. His narrative has been supplemented by much else in written history and in archæology and I quote from the description of our own Aryan ancestors at an earlier period in Mr. Isaac Taylor's recent and excellent little book.

"The most recent results of philological researches, limited and corrected, as they now have been, by archæological discovery, may be briefly summarized.

"It is believed that the speakers of the Aryan tongue were nomad herdsmen, who had domesticated the dog; who wandered over the plains of Europe in wagons drawn by oxen; who fashioned canoes out of the trunks of trees; but were ignorant of any metal with the possible exception of native copper.

"In the summer they lived in huts, built of branches of trees and thatched with reeds; in winter they dwelt in circular pits, dug in the earth and roofed over with poles covered with sod or turf, or plastered with the dung of the cattle. They were clad in skins, sewn together with bone needles; they were acquainted with fire, which they kindled by means of fire-sticks or pyrites, and if they practiced agriculture, which is doubtful, it must have been of a very primitive kind, but they probably collected and pounded in stone mortars the seed of some wild cereal, either spelt or barley. The only social institution was marriage, but they were polygamists and practiced human sacrifice. Whether they ate the bodies of enemies slain in war is doubtful. There were no inclosures, and property consisted in cattle and not in land. They believed in a future life; their religion was shamanistic; they had no idol, and probably no God, properly so called, but reverenced in some vague way the power of nature."

Save in animals suitable for domesticity, this early description of our early ancestors might answer well for the American Indian.*

*At the time the comparison here made was written I was not aware that it had ever been made before, through it seems to me a very obvious one. In *The Chautauquan*, for October, 1890, that most able and eminent gentleman, Dr. Edward A. Freeman, says a great French writer made a similar comparison between "the German natives when we first hear of them in history," and the "Red Indians of America" and criticises it. My comparison, it is noted, is confined to the prehistoric Aryans and a much larger and more complete parallel might be made. The "Five Nations" also had made some advancement in government and set some example of union which the colonists did not disdain to follow.

Even that disappears in comparing early Denmark, of which Mr. Taylor says (page 60) :

"The stone implements found in the kitchen middens or shell mounds of Denmark are more ancient in character than those from the Swiss lake dwellings ; indeed they are considered by some authorities to be mesolithic, forming a transition between the pæleolithic and neolithic periods. The people had not yet reached the agricultural or even the pastoral stage—they were solely fishermen and hunters, the only domesticated animal they possessed being the dog, whereas even in the oldest of Swiss lake dwellings the people, though still subsisting largely on the products of the chase, had domesticated the ox, if not also the sheep and the goat.

"These shell mounds are composed of the shells of oysters and mussels, of the bones of animals and fish, with occasional fragments of flint or bone and similar refuse of human habitation."

This description does not seem to differ from the Indians upon the Atlantic coast and their also, extensive shell mounds.

The Indian, for his uncorrupted and aboriginal type has great interest, even though Colden was far too sanguine when he likened the Iroquois to the Romans.

The Northern tribes, as stated, were of two distinct tongues, dissimilar in words but alike in grammar—the Algonkin and Huron-Iroquois. The Cherokees, of the Iroquois tongue and the Shawnees of the Algonkin stock, both differed most from their kin. Both were separated and towards the South ; both had lived in Ohio ; both had corrupted language and were in earliest

times in Indian language "Attiwandaronk," speaking a little different language. The Shawnees, while in Ohio, curiously separated Algonkin tribes on the west and east, whose tongues were more like each other than that of either like the Shawnee language.

Is it not probable that these were the advance guard of the great Northern irruption and met the Mound Builders, and near the limits of the Firelands first rolled back their enemies?

The victory of savagery was complete, Ohio became a wasted and savage country. Such was Indian tradition, and whether or not tradition was history, such was the fact.

So that Algonkins and Huron–Iroquois became masters of Ohio soil. And as we hear from the Jesuit Relations, both of these great lingual nations lived in Ohio; the Eries in the east and the Algonkins in the west.

But wars kept on and no matter what by Indian relation led to them, they were sure to come. The Eries first pushed toward the east and then attacked by the Iroquois proper, not far from 1655 they ceased to exist as a separate nation—said to be exterminated, but in those days there were two ways of extermination, one by death and the other by adoption.

The Algonkins were driven back. Your part of Ohio was thereafter peopled, much as the boulders came, by strangers driven from foreign parts. By Wyandots and Ottawas around Lake Erie, driven by the Iroquois from the east of Lake Huron, much where

the boulders came from. The story is learnedly, elegantly and eloquently told by Mr. Parkman. Overtaken by common misfortune, these two nations presented long thereafter the anomaly in history, of dwelling in intimate friendship of tribes so different in language. For, without reason as it may seem, a difference in language, is most apt to create hostile feeling. From that time, down to the complete settlement of the whites, these two tribes lived on that favored spot for savages, the neighborhood of Sandusky Bay. The savage nations, mainly the Senecas, the western and most numerous (largely by adoption) of the Iroquois, inhabited or rather temporarily visited the eastern part of your land. As your part of Ohio was thus settled, if settlement it be, from each side we catch occasionally interesting glimpses of life here, and only by peeping in on either side.

In 1744, in the noble work of Charlevoix, (Paris Edition) in the map by the "ingenious Mr. Bellin," attached to royal service, and spread along your land from Sandusky Bay to the Cuyahoga river is the French legend, reading in English : "All this coast is nearly unknown."

France was in the west and England in the east, striving for its possession, and in English eyes, as shown in Mitchell's large map of 1755 this same land as shown by a legend in the same place, was described. "The country, supposed to be forty miles by trail from the Cuyahoga to the Sandusky is called 'Canahogue' and is the seat of war, the mart of trade and chief hunting ground of the six nations on the lakes and the Ohio.

'Fort Sandoski' is on the west side of the River Blanc, usurped by the French 1751."

Occasionally after that is a war expedition, a French trading house, an English expedition, some white prisoners.

Pontiac's war was partly across these limits. The Indian nations continued the same, and, as savage nations are apt to be, unsteady and unreliable.

The road from French to English forts was sure to be little traveled. From the first, this was much the position of the south of Lake Erie, until by further settlement and enterprise on either side, that collision was precipitated, which was sure to come at last. The travel of the French was mainly to the north, yet occasionally they visited this vicinity from the west for trade, or even from the north for shorter travel.

Among the Parisian documents is a memoir of the Indians in 1718. The author says: "Whoever would wish to reach the Mississippi easily, would need only to take this beautiful (Ohio) river or the Sandosquet; he could travel without any danger of fasting, for all who have been there, have repeatedly assured me that there is so vast a quantity of buffalo and other animals in the woods along that beautiful river, that they were often obliged to discharge their guns, to clear a passage for themselves. To reach Detroit from this river Sandosquet, we cross Lake Erie from island to island and get to a place called Point Pelee, where every sort of fish are in abundance, especially sturgeon, very large, and three, four or five feet in length. There is on one

of these islands so great a number of cats that the Indians killed as many as nine hundred of them in a very short time."

The hunting and fishing stories here seem large ; still the traveler on the Ohio may have met a drove of buffalo in stampede. The route to Detroit is that adopted by General Harrison in 1813.

From 1718 on, we hear from time to time, of French and English traders and houses in this border country. Either occupation of itself, would make an interesting study, and collection of notices of the French would be instructive. All was not peace to them, for in 1747 five were killed at one time at Sandusky. The vast number of documents in existence as to American affairs, show that English (perhaps American) traders were here as well. The French war, where Washington first appeared in protection of the west and in disaster secured respect, ended in a surrender to the English of all the west.

But the actual savage owners were not yet evicted, and Pontiac traveling to the east, across this territory, met the English. A second and cruel war followed. I do not propose to rehearse it. Parkman's Pontiac should be in every good library in Northern Ohio.

In May, 1763, Fort Sandusky was captured by trick and burned at night. But Pontiac, even if he issued fiat money, could not stand against numbers and civilization, and the west was English territory.

From that time on existed a characteristic frontier condition—a series of border differences and uncertainties. It is said, and truly, that savages are like chil-

dren, indeed *very much* like children, driven here and there by impulse and not governed by cool reasoning. Indeed, it may well be doubted whether cool reasoning has not been mainly developed in man, by a stationary and agricultural life, being induced mainly by a desire for the preservation of his own. At any rate, the Indians were now friendly and now unexpectedly inimical. Some of their cruelties seem fiendish, and close by seems piety almost like that of the early Christians.

In 1767 Mr. Charles Beatty was sent to visit the tribes west of Fort Pitt. His journal is rare and I use the copy belonging to the library of Congress.*

His description of Pennsylvania as he passes the frontier, is pathetic. He says : "The house I preached at to-day was also attacked by the Indians ; some were killed in the house and others captivated. It was truly affecting to see almost in every place on the frontiers, marks of the ravages of the cruel and barbarous enemy. Houses and fences burned, household furniture destroyed, the cattle killed and horses either killed or carried off, and to hear the people relate the horrid scenes that were acted. Some had their parents killed and scalped in a barbarous manner before their eyes and themselves captivated. Women saw their husbands killed and scalped, while they themselves were led away by the bloody hands of the murderers. Others related that they saw the cruel scenes and that they themselves narrowly escaped."

Yet as Rev. Beatty went on to the country now Ohio, whence came these cruel murderers, and ended his jour-

*The Western Reserve Historical Society has since procured it.

ney on the Tuscarawas, he was much encouraged ; his preaching seemed most acceptable, and there was an invitation from the Indians of Qui-a-ho-ga to the Indians of New Jersey to settle with them ; the intention being to there make a large town and then try to get a minister among them. It may be gratifying to know that Chief Thepisscowahang, who gave information as to "Quiahoga," also informed the travelers that "there were three other nations or tribes, viz: the Chippeways, Putteotungs and Wyandots that lived near the lake that is Erie, who discovered a great desire to hear the gospel." Rev. Beatty said that he understood "that these tribes used to hear the French ministers preach, who worshiped God in something of a different way from us and therefore perhaps would not hear us." The chief replied, "that he was pursuaded and that he knew, if a minister of our way, would go out among them, it would be very agreeable to these nations and that many of them would join us."

The text of the invitation to settle among these Western Indians is lost, but the answer is preserved in full. Its tones savors of strong piety and it is most interesting, but it is too long to be presented. They return the belt of wampum and say :

"Brother, we thank you in our hearts, that you take so much care of us and so kindly invite us to come to you, but we are obliged to tell you, that we do not see at present how we can remove with our old people, our wives and our children, because we are not able to be at the expense of moving so far, and our brothers the English have taken us into their arms, as fathers take their children and we do not think we ought to go without

their assistance and protection. We have here a good house for the worship of God, another for our children to go to school in, besides our dwelling houses and many comfortable accommodations, all of which we shall lose if we remove. We have also a minister of Christ, to instruct us in all our spiritual concerns and lead us to Heaven and happiness, which are of more worth to us than all the rest.

"Brothers, we have found how we may escape everlasting misery and be made perfectly happy for ever and ever.

"Brothers, it is made known to us and we are sure that our bodies, which now die and turn to dust, shall be raised again at the last day of the world; also that our souls shall then be united to them and we shall be alive again, as we are now, and live forever, never to die more, and it shall be so with the whole race of mankind.

"Now, brothers, we have learned what we must be and what we must do, to escape this world of misery and obtain this place of happiness and we wish that you and all the Indians everywhere knew it as we do."

Mr. Beatty says that the Chippeways (probably largely Ottawas) are supposed to be 1,400 or 1,500 in number, all in one town; the Putteotungs (Pottawatamies) are considerable as to number in another town; the Wyandots about 700 persons, are likewise one town, which is about sixty or seventy miles distant from Quiahoga, the intended Delaware Christian town."

The proposed Christian settlement did not take place.

Yet the Firelands were to become connected with the most touching of such settlements. The Delaware Moravians with their missionaries, founded from Saxony, were to suffer martyrdom at Gnadenhutten in Tuscarawas county, with a fortitude that savored both of Indian hardihood and Christian patience, On this river (Huron) they founded Pequotting and New Salem.

But before this, this territory was to witness a variety of scenes, traversed for many purposes of peace and war, by well marked trails; by General Bradstreet in his unfortunate expedition, outwitted by the Indians living on these lands; by traders French and English; by Col. Crawford on his savage errand, cruelly and at once punished. After the Revolution, this was still a borderland—the British still keeping the West. The treaty of peace was here a dead letter. Expeditions continued from time to time. Yet before the war of 1812, Badger and Atkins were to preach among the Indians of the vicinity. These things are copiously related and easily read.

The war of 1812 is not so clearly known. The American relators were of Kentucky, and told many more tales of their own doings than of Ohio. The English papers, however, are in the capitol at Canada, ready to give new light. From an occasional view we know Ohio did its part. Striking campaigns were on the Sandusky and further west. Perry's victory was even heard here.

The very title of the Firelands grew from the sorrows of war. The destructive expeditions in Connecticut have been esteemed wanton cruelty, but in Mr. Fisk's

remarkable little book on the Revolution, are seen to have had a very definite, important but ineffectual purpose. The purpose governed the execution of it. There are yet in Hartford many books and papers relating to these lands—open for your use—and which if you do not do this service, will sometime be thoroughly examined by the Historical Society of Cleveland.

Such history as is common to you with others I cannot enumerate.

Within the memory of many of you, the Indians made their last farewell to this country, transported by the government against their will to scenes which yet were more suitable to them. I think not unworthy of history is the Wyandot's farewell, partly rescued near you by oral memory.

"Farewell, ye tall oaks in whose pleasant green shade,
I've sported in childhood, in innocence played,
My dog and my hatchet, my arrow and bow,
Are still in remembrance—Alas, I must go.

"Adieu, ye dear scenes, which bound me like chains,
As on my gay pony I pranced o'er the plains,
The deer and the turkey I tracked in the snow,
O'er the great Mississippi—alas, I must go.

"Sandusky, Tyamochte and Broken Sword streams,
No more shall I see you except in my dreams,
Farewell to the marshes where cranberries grow,
O'er the great Mississippi—alas, I must go.

"Dear scenes of my childhood, in memory blest,
I must bid you farewell, for the far distant West;
My heart swells with sorrow, my eyes overflow,
O'er the great Mississippi—alas, I must go.

The last verse shows a revulsion of feeling not unnatural.

> "Let me go to the wildwood, my own native home,
> Where the wild deer and elk and buffalo roam;
> Where the tall cedars are, and the bright waters flow,
> Far away from the pale face, oh there let me go."

If my discourse has seemed too general, it is no accidental mistake. The art of history is much like painting. In the library of Oxford University are numerous original drawings—many studies made by Raphael and Michael Angelo. In some of these studies of the human figure each artist has drawn first the skeleton, then the muscles, then the skin, and sometimes over all the drapery. How instinct with life and beauty is the full representation made by these artists from these studies. So in history the frame has its use, though the pattern is to be full wrought, to be most pleasing and instructive, and my purpose will be quite served if any believe it and feel more inclined to study the history of Ohio.

It is an easy and fresh field; where the materials are in the earth, in the history of the East and the West, American, English and French; and so short a time is it since the first settlement of Ohio that the memory of some living may relate history of people quite different from ourselves.

If we trace from Adam—as in genealogy the way is long and cold; but here the scenes change and come before us as in a theatre.

The curtain rises and we see glacial man, scanty in resources, with his hand-struggle with rugged nature. The curtain drops, he goes out we know not where.

Again it rises, and the Mound Builder is on the stage —mysterious, yet recognized and known in part; enough known and enough unknown to cause a romantic interest.

The curtain drops again—we are still discussing whence he came, what became of him,—when on the stage we see several actors in long following scenes of dramatic interest—of tender, touching affections, so that even returned captives willingly become again captives; but often hard and pitilessly cruel, exhibiting in every way and as freely as in Shakespeare the passions of men. He but held the mirror up to nature. The play of the third and fourth acts run together; English and French appear; hostile to each other, each sometimes friendly and sometimes unfriendly with the Indians.

There are Indian wars sometimes patriotic, always passionate.

There appears in one of the scenes of the fourth act the romantic apostles of peace—the Moravians, with their wonderful sacrifice reminding of the early Christians. The massacre may have been matched only in that vast pagan theatre—the Colosseum, where so many Christians at once were sent "ad Leonem."

The fifth act is now being played. The persons came on the stage partly in the previous act. The American has conquered the country and its difficulties. All nature seems to have changed; new and magic forces seem at work. If the play is not as strong in tragedy there is much more that is spectacular and vivid. Civilization has accumulated by arithmetical addition to such

figures as have never yet been gained and never lost.

Where else is such dramatic history and where such favored place for study? Much of the world has contributed to the history of the Firelands. The Firelands, in the last act, is contributing to the history of the world.

Its citizens have been prominent in the wonders of the age, in railroads, in telegraphs and in national finance. One of its boys is most celebrated in the wonderful inventions using invisible forces in sound and in electricity.

One, by his work in most distant and cruel climes, which first published in our country and now read in all, has so directed attention to the great remaining cruelties of the world that it would seem that a great result must follow. Only a few steps off, the whole nation came for a chief magistrate who to the undoubted dignity and purity of administration has added the most dignified and worthy life in retirement ever led by an ex-chief magistrate of our nation.

Other triumphs in literature and art are advancing.

The whole makes a wonderful picture proving that at home you have a history most interesting and worthy of pursuit.

ERRATUM.

Middle of page 277 read: The British still keeping their influence in the West.

much, whether from the whole of these lands and lots a sufficient amount could now be realized to pay the debts of the company.

"The process of receiving these lands on subscription constituted a very decided improvement on the modern system of financiering. The lands were sold to the company by the owners, and general guaranty deeds executed for them. A credit was then given by the company for a payment of stock to that amount, and certificates issued bearing interest at the rate of six per cent. per annum. After the lands had been reported to the Fund Commissioners as a basis of a loan of credit, upon the ground that they were purchased for the use of the road, the company commenced selling them for the certificates of stock issued for their purchase; and this process had been carried on up to the date of the investigation, to the amount of $59,678—thus reducing the payments for lands for the use of the road, upon which the stock of the State had been issued, from $533,776 to $474,306. The result of the operation, if left to work itself out, will be that after the company has bought lands at excessive valuation, to the amount of more than $500,000, and drawn upon them from the State $249,000 in State bonds, the lands will all be disposed of to the original or other owners, and the company have nothing more for itself, or as a security to the State, than the six per cent. stocks originally issued for the purchase. In many instances, too, these lands have been sold back to the same person from whom they were purchased, and at reduced valuations.

"The General Improvement Law provides for a loan of credit by the State of one dollar for every two expended by the company in the actual construction of the road and the purchase of lands for the use of the same. This latter provision in this, as well as other companies, has been construed to mean the purchase of lands for the purpose of speculation, or even fraud; and, unfortunately for the State, this construction has been concurred in by the Fund Commissioners.

"Between the payment of that $50,000, and the next of $169,000 on the part of the State, the president admits that no money was collected from the stockholders, and that the operations of the company were carried on upon its stocks and credit. The explanation of all this is that the company had then commenced the business of banking; and, as was well remarked to me by the president of another of these companies, that, 'presuming upon the general imprudence of the times,' they succeeded in putting out and maintaining a large circulation. A portion of this was paid out direct to contractors and laborers on the work. Other portions were exchanged for the then depreciated funds of the State, and the expenditures upon which the second report was based, and the payment of $169,000 made by the State was entirely of this character. Not a dollar had been collected from the stockholders; not a dollar was in the treasury as a basis of this issue; but upon the expenditure of this character the funds of the State were procured; and then, as will be seen from the deposition of Mr. Taintor, they were used to redeem the circulation already out, and form the basis of a new emission, by which a new sum could be plundered from the public treasury. By this operation the State was not only building the whole road and supporting the horde of officers who were living upon it; but was made a party to the infraction of her own laws, and her treasury drawn in to bolster up and sustain a fraudulent system of banking, that has ended in the robbery of her citizens to the amount of $35,000 or $40,000. Surely iniquity, fraud—nay, even swindling—could go no further.

"The amount of stock received by the company from the State is, -	$249,000
"Cash paid on construction of road,	237,220
"Leaving cash expenditures less than amount received from the State,	$ 11,780

"And for all this expenditure, the State had some sixty-

three miles of wooden superstructure, laid on piles, a considerable portion of which is already rotten, and the remainder going rapidly to decay. The lands under the law also revert to the State; but they are encumbered by a debt of the company, after deducting the amount paid by the sale of machinery, of about $80,000. This amount is due to laborers and contractors on the line, and to citizens who have received the notes of the company in good faith, and who are entitled, in justice and equity, to be paid; and if paid from this source, as I have before intimated, I do not believe the lands, at a common-sense valuation, will more than meet the claim. The company failed in July last to meet the interest on the State stock, amounting to $7,479. The work is therefore forfeited to the State."

After the collapse of the company, Judge Allen, the president, a man of high character and attainments, turned his attention to milling at Manhattan, and died in Toledo in 1861.

The principal Cleveland or Ohio City man in the company was the largest subscriber to the stock, taking for himself and friends, $307,350 out of a total subscription of $1,991,776.

As usual, after the final collapse of the company, in 1843, the State by its Auditor, "wanted to know, you know," and investigated.

His annual report to the Legislature, in December, 1843, revealed some startling financiering.

Thus ends this "strange, eventful history" of the attempted rise and decided fall of the Ohio Railroad Company —1836-1843.

I cannot close without acknowledging that I am indebted to that veteran editor and historian of Toledo—Clark Waggoner—for a very large part of the facts in this paper.

Tract No. 82.
WESTERN RESERVE HISTORICAL SOCIETY,
Cleveland, Ohio.

THE DEVELOPMENT

OF

CLEVELAND'S HARBOR

A Paper Read Before the Western Reserve Historical Society of Cleveland, Ohio, January 29th, 1891,

— by —

JOHN H. SARGENT, Esq.,

THE DEVELOPMENT OF CLEVELAND'S HARBOR.

LADIES AND GENTLEMEN AND MEMBERS OF THE HISTORICAL SOCIETY.

I will begin this paper by reading a page from the handwriting upon the walls of clay and sand at Cleveland.

At one time, no doubt, the sand ridge of Franklin Avenue extended across the valley to Euclid Avenue ridge and was the beach of a large body of water that found its outlet to the Mississippi River and the Gulf of Mexico. Subsequently the Niagara River was developed and the lake was cut down to its present level and the Cuyahoga delta was formed.

Most considerable rivers find an outlet through a delta at their mouth, and in this age of the world one or more islands are generally found at the meeting of the waters. The Cuyahoga is no exception to the rule.

Let us commence our perusal where the river meets the high clay bank at Huron street; here it is diverted from its direct course towards its goal, the lake, and from this point it hugs the right bank until it reaches South Water street whence it flies off in a tangent to the left bank just below the blast furnace, thence it hugs the left bank, which continually diverts its course forming the "O bow," or Cleveland Center. This *left* high bank, within the memory of your speaker, extended down to Elm street, where it was known as Cannon Hill where Fourth of July patriotism was exploded in gun powder.

Here the river struck across the valley again to the right bank, at the foot of Superior street, thence it hugged the right bank around to where the foundry on Whisky Island now stands; thence it followed the channel which is now known as the "Old River Bed" and escaped into the lake

where Weddell street now is. This was the western extremity of Cleveland. The Brooklyn high bank stopped at what is now Waverly street or the Walker Iron Works.

Now let us return to the present river bank. At this point the right bank had become quite narrow and Lake Erie's waves on the one side and the freshets in the river on the other, in time wore it through, and the river took a short cut to the lake, deserting its old channel and making an island of Cleveland's peninsula.

The current being diverted from the old channel it was soon blocked up by the waves of old Erie, and the island again became a peninsula, but this time it was annexed to what afterwards became Brooklyn Township. In the meantime the river sought the lake on the east side of what is now West River street.

In this condition Moses Cleaveland found our harbor at the end of the last century; and so did Amos Spafford at the beginning of the present century; in this condition Ezekiel Hoover found it in 1806, when he divided Brooklyn Township into lots. In this condition I found it in 1818 when I landed upon Cleveland's Sand Beach. In this condition the government engineer found our river in 1826, and diverted its course from where it had left its old channel, by diverting it sharply to the right, thus cutting off a good slice from Moses Cleaveland's Cleveland, and annexing it to Ohio City.

But this was only a bait by which, in 1854, Cleveland swallowed the whole of Ohio City and is still taking in the country round about.

That the Cuyahoga River once found its way to Lake Erie through the Lagoon, the "Old River Bed," there can be no doubt; but it is quite sure that that was before Cleveland had found a local habitation and a name.

It is quite possible that in times of great floods the river may have overrun the barrier thrown across its old mouth

by Erie's waves, but the first storm would be sure to block it up again.

Ezekiel Hoover found this barrier here in 1806; from that date to about 1823 Alonzo Carter's hounds would drive the deer across it when to escape they would take to the lake to be brought down by the old hunter's unerring rifle.

In 1833 the Buffalo company made its allotment, and not many years after Ohio City spent a large sum to make a ship channel of the Old River Bed, and made an attempt to open it out into the lake. It appears to be a little uncertain whether a small vessel ran through it or not, at any rate it is certain that for a time the project was abandoned, for in 1848, S. S. Stone made an allotment showing the end of the Old River Bed at Weddell street and 250 feet in width between that and the lake, and he drew lines across the barrier to the lake and named it "Proposed Harbor."

On the 4th of July of the same year, 1848, our former president, Col. Whittlesey and a Mr. Lloyd, recorded a plat of all the land north of River street and west of Short street and west of the Government piers. In this allotment is shown the river channel in 1826. About the year 1826, I have not the memorandum of the exact date, the Government piers were completed and the Ohio canal was opened from the Ohio River to the Cuyahoga River where the Valley Railroad now crosses it near Merwin street.

These works gave Cleveland its first commercial boom. In 1834-5 I was collecting tolls under D. H. Beardsley at the corner of Merwin street and the canal; back of the office was a large basin, and here the canal boats, arriving in the night, would congregate to have their clearances examined and be inspected before going into the river.

The canal boats brought wheat, corn, oats and other produce, and a fleet of vessels brought merchandise from Buffalo taking back this produce. This then seemed a very large business, and so it was for the day.

Then the locomotive engine and steam railroad were not known to the world. In 1829 the first locomotive ran from Manchester to Liverpool, in England. But it took the locomotive more than twenty years to reach Cleveland and give us another boom.

In 1820 I saw my first launch—a schooner of perhaps fifty tons bunden. The other day, just across the river from this, I saw a 3,000 ton steel ship slip into the same stream—a wonderful change, but that little schooner was launched seventy years ago. What may we see in another seventy years?

Where there were 265 people there are now 265,000.

Our river and our river bed front may be made to yield us 40,000 feet front of wharf, which, by dredging, may be kept at a fifteen foot channel 200 feet wide. And now since the construction of the breakwater we can readily have on the lake front 40,000 feet more of dock front with twenty feet depth of water on a dock 150 feet wide; all inside the breakwater with an almost unlimited chance to spread out both to the west and east.

In 1822 the sea dogs were not annoyed by the structures of the land lubbers, for at that date I had to cross the river to attend school and the only means of crossing was by a ferry at the foot of Superior street. The first bridge was a raft of logs at Center street. This bridge was before long changed to a pontoon, then to a lift draw, and last to a wooden swing bridge, and when this failed an iron bridge took its place.

But when some land speculators built Columbus street bridge they called to their assistance the navigators and undertook to say that no bridge should cross the river below Columbus street.

This raised the ire of the Ohioans, and after trying to blow it up with gun powder—they had no dynamite then—they sent their marshal to cut away the draw of this Colum-

bus street bridge. This started a bridge war which ended in an agreement under which Center street has been maintained and Main street bridge was built. So much for obstructions.

Now let us return to the beginning of railroads in Cleveland and see what we can learn. It was about 1850 that they began to be seen in Cleveland. From this point it was expected that their business would be carried forward by steam vessels on the lake, and soon after the great steam palaces, the Northern Indiana, the Michigan Southern, the City of Buffalo and the Western Metropolis made their appearance and it was a matter of necessity for the railroads to reach them.

At the beginning of the century, in laying out the town of Cleveland, Amos Spafford laid out what he called Bath street, its southern boundary was what is now the south line of Front street, from this it extended east to Water street, west to River, and north to the lake. Its north line would come and go as the winds sported with the beach sands, and the billows rolled over them.

When the General Government turned the river from its former channel it was carried across this street. Just what rights it acquired on the land and how it acquired them I am unable to say, but this I do know, they abstracted a good slice of the city of Cleveland and gave it to the City of Ohio.

Before the railroads reached here a sort of meteor by the name of Lloyd struck Cleveland, took to himself as partner Col. Whittlesey, our former president, and recorded an allotment of this abstracted part of our city, and perpetuated his name by christening a street "Lloyd street." How they acquired title to this part of Bath street I do not enquire.

Next came the railroads and gobbled a good portion of Bath street, including its very name, calling what was left of it Front street. And now the Union freight depot and the

Lake Shore freight houses occupy this street and the lake in front of it. How they acquired this title I will not attempt to ferret out, neither is it important, as good use is made of it and the public enjoy it largely.

But if ever the General Government finishes the breakwater the city should resume possession and make permanent docks there, and lease them for commercial purposes charging only rent enough to reimburse it—at least that is the opinion of your humble servant.

Here I might drop the subject, for here history proper, ends. But the facts of to-day become the history of to-morrow, so I will advance a step farther.

It may be a little presumptious for me to talk law, especially as we have an eminent judge at our head; but even he would hardly venture an opinion except at the end of the pleas of some experts in law. My plea is that for the citizens of Cleveland, aside from the special situation of Bath street, our lake front is the most important question before the people. Other cities have wrestled and are wrestling with the same question.

The General Government has jurisdiction over all navigable waters; so far I believe there is no dispute. In rivers this jurisdiction only extends so far as to preserve their navigation unimpaired, beyond that, the municipality have control subject only to riparian rights.

With the lake it is quite different. From high water mark the lake bottom slopes away about a quarter of a mile to the line of fourteen feet of water. This space is unsuited to navigation purposes but no one can occupy it for any other, save by express permission of the government.

I know that the railroads and others claim this space. Is there anything they do not claim? Certain it is, Ontario, Seneca, Bank, Water and Bath streets were laid out by Spafford in 1802, *to the lake.*

Can their be any doubt that Cleveland may make piers of these streets as far out in the lake as the government will permit, or that the government can prohibit any of these claimants from putting any obstructions in the lake between them?

Let us claim that the government can grant to the States and the States to tne municipalities, the right to reclaim this space by constructing slips and wharves upon it, and go ahead and do it. As an example let us extend Seneca street by a bridge across the railroads and then along the railroad to the dock level at Ontario and Bank streets. Then let us make the Ontaria, Seneca and Bank street docks each 300 feet wide with a slip 150 feet wide between them, and on the outside of each. They may be made fifteen hundred feet long, for between them and the breakwater is but a passage way to the east bay of the "Harbor of Refuge." Each of these docks may cost $75,000 built in a thorough manner.

In the central slip may lay at one time a half dozen 4,000 ton ships from Europe and a half dozen other ships from the Gulf of Maxico, when Chicago shall have opened out Lake Michigan to the Mississippi.

This may look a little rose colored, but when this third boom of our beloved city shall become history, it will go down to the ages as the greatest. There is one bit of history to which it is proper that I should allude.

When Judge Lane secured the right of way across Whisky Island and S. S. Stone's project, the "Proposed Harbor" at the west end of the Old River Bed, a reservation was made, perhaps at his instance, that the Junction Railroad should, whenever demanded by the city, cut away its bank and build a draw bridge over this "Proposed Harbor."

Mr. Stone was in his day a "hustler," but I cannot learn that he demanded in his latter days that this bridge should be built. He owned all the land adjoining it and especially a body of land right at this "Proposed Harbor," which he

called a "Reserved Square," from which he took especial pains to exclude the public. As that "Reserved Square" is now occupied by the new dry docks it is perhaps fair to presume that the representatives of its projector had given up the idea of his "Proposed Harbor." The Legislature has authorized the issue of $25,000 bonds for opening out the Old River Bed to deep water in the "Harbor of Refuge," at least a quarter mile of shifting sands, a sum not more than one half what it would cost to make a permanent channel.

It would cost the railroad as much more to put in its bridge beside being a never ending source of danger and expense to work it. This estimate is purposely made low; it should be multiplied by two.

This $100,000 to $200,000 of bonds, in prospect, is a tempting plum for contractors and financiers.

Allow me to suggest to the city to get the best bargain it can for River Bed Bridge Contract, with the successors to the Junction Railroad, and build the Ontario street dock and slip. Both of them will get out of the matter much cheaper than to carry out the contract and have, instead, a work of real value for all times to come.

This would also be a rounding out of Lake View Park and furnish an elegant site for the Exposition Building.

Upon this Ontario street dock all the passenger boats and excursion business can be done, and save the annoyance of winding up and down the crowded river—among the freight boats and vessels and draw bridges. If this should be done it would be in the future a bright page in Cleveland's history. There is another chapter in the history of our harbor "whose offense is rank and smells to heaven." If I should omit this the very gods would cry out. I will first give you an idea of how the gods left it and then call your attention to what the *genus homo* has done to it, and will then venture to suggest a remedy.

In my younger days, like most boys, I had a little taste for hunting and fishing. The Walworth Run we hear so much about lately, had not then acquired its vile character or name even, at least we called it Spring Run, and most worthily it deserved its name, for from the river bank to what is now "Cooney Beck's Packing House" and the stock yards, innumerable springs of crystal water issued from its banks and made a purling brook filling several mill ponds with crystal water, in which the dace and shiners could sport and thrive. The wild turkey, the squirrels and the black racer found a safe retreat in the thickly wooded valley.

The big valley of the Cuyahoga, and its other tributaries, were of like character. The sturgeon, the cat fish and the muscalonge found, in their pure waters, a native element. But time has taken all the poetry out of these valleys.

I will not attempt to describe their present condition, but will only say that their waters have become too vile for the cat-fish, the sturgeon and the mud turtle to live in.

The sewage of well nigh a 100,000 people, with refineries, slaughter houses and acid works are harbored there until a freshet comes and sweeps them out into our coming Harbor of Refuge, there to be sorted out into its solid, soluble and volatile elements to fill up the harbor with filth, to contaminate the water we drink and the air we breathe. This process is cumalative. But the worst thing about all this is that not a step is being taken to abate the nuisance. Yes, we have developed a great harbor; but who that sees it or smells it will deny but that it is a harbor of filth.

There is, however, a chance and hope that that filth may pass into history, and our harbor become a thing of beauty and usefulness and a joy forever. A perfect cure is practicable and will not cost more than half that of the Central Viaduct.

There is but one general plan and that is to lift the sewage by power and discharge it well below the city in deep water in the lake. The plan briefly stated is this: Drive a tunnel, similar to the water works tunnel, from above Central Way Bridge, under Central Way and Seneca street to the lake, and under that to the east arm of the breakwater, wherever that may be, and there erect your pumping works. This tunnel should be thirty feet below the surface of the water in the lake. Pumping the sewage from this tunnel will give you the needful current by head instead of fall.

This tunnel will give you an ample out fall for all the sewage of the west side of the river, the flats and the river slopes of the east side and enable you to under drain all the flats.

All the sewage of this region will discharge into this tunnel, through wells. reaching up to the surface. Thus all the sewage will be kept out of the river, while the storm waters should be suffered to escape into the river to make live water of that.

When our population shall have reached its half million you have but to extend your tunnel south and east to take in its ever spreading limits.

Our Water Board is just now asking some $400,000 with which to extend their tunnel 2½ miles farther into the lake. If this 2½ miles of tunnel was run under the Cuyahoga Valley, as above indicated, we should have a pure river and a pure harbor of refuge, and with a pure harbor of refuge we should get pure water from our present crib.

In conclusion I will make a brief resume of dates and facts touching the subject that is now agitating the public so much: This is the question of opening out the west extremity of the old river bed into the harbor of refuge.

When the river made a break through the high bank to the lake at or near West River street, its old bed was made a

lagoon with no outlet at either end. This was before the advent of the white man.

In 1806 Ezekiel Hoover shows in lot 50, Brooklyn Township, the west end of this lagoon with a sand speit between it and the lake of about the same width of the lagoon. Between 1848 and 1850 S. S. Stone purchased 50 acres of the west side of lot 50 and allotted it showing the lagoon as stopping at Weddell street, and Weddell street at the lagoon and 250 feet of land between the lagoon and the lake.

Stone's land extended north to the "Old River Bed and Lake Erie." Mr. Stone indicates a proposed channel to the lake from the end of the lagoon. By partition proceedings "the island," so called, was divided into blocks by streets and the different owners received their several shares to the center line of these streets. In this partition the river bed stops several rods short of the lake but there was no line across this sand speit marking where lot 48 or "the island" stopped and the Stone farm began.

I cannot learn that the city ever acquired any title to the streets described in this partition. If they ever had any right to cross the sand split at the end of the Old River Bed, it has not acquired it by possession. And it will have to hurry up or it will never catch the lake, for it is fast receeding and is now several hundred feet from it.

Before the breakwater was built a long sand beach was formed west of its present shore arm, but now the northwest gales have driven this sand into the harbor of refuge through the piling and is making land there very fast, doubtless to the advantage of the shore owners if the Government fails to reclaim it.

The eastern end of the lagoon came to a point at West River street with no connection with the river until the city established the ship channal from Elm street to the river at Hemlock street and widened and deepened the old river bed

to Weddell street, converting this old lagoon into a valuable addition to our harbor.

Our harbor has kept, so far, abreast of our population, but with such harbor improvements as are within our reach made, our population, business and wealth would have been greater than they are.

If the private enterprise and push of many of our citizens could be supplemented by a little more disinterested *public* enterprise and spirit we might soon become a more respectable second to Chicago than we are.

When the Buffalo Company allotment was made in 1833 the only outlet from the Old River Bed was through a small brook starting in the extreme east end of it, and running into a small pond, still in existence, which led into the river.

When the ship channel was dug from the old river bed at Elm street to the river, at Hemlock street across private property, this brook and a part of the Old River Bed was filled up and is obliterated.

And now, ladies and gentlemen, I will ask the geologist to take you away back to when the Berea grit formed an iron bound coast from Berea to Newburgh and show you how the Cuyahoga cut its way through this and along down through the underlying shales to two hundred feet below its present bed; how the glaciers then came and filled this valley with its freight from the Canadian mountains and deposited the beds of boulder clay and the layers of quicksand that give General Casement his "extras," which in turn give our watch dog, Major Gleason, so much trouble; how the sun then got in his work and drove back to the far north the Ice King; and how the Indians Crooked River—the Cuyahoga—after its long rest cut out the valley and formed the delta of the Cuyahoga enabling Moses Cleaveland to plant our beautiful city and your speaker to recount this somewhat wandering history of its harbor.

TRACT No. 83.
WESTERN RESERVE HISTORICAL SOCIETY,
CLEVELAND OHIO.

THE EARLY HISTORY OF LORAIN COUNTY.

HISTORICAL ADDRESS

BY

W. W. BOYNTON,

DELIVERED JULY 4, 1876, AT ELYRIA, OHIO.

HISTORICAL ADDRESS.

BY W. W. BOYNTON.

Fellow Citizens:—

In 1748, an eminent French writer informed his readers that a prosperous and great people, having the form of a free government, was forming and rising in the very forests of America, which they were sent forth to inhabit. One hundred years ago to-day, that great people, cutting loose from the restraints of foreign domination, declared that the United Colonies were, and of right ought to be, free and independent States; an utterance involving immense and weighty responsibilities. That all men were entitled to life and liberty, and to engage in those pursuits that were calculated to secure their prosperity and happiness; that governments instituted among men derived their just powers from the consent of the governed, were propositions both self-evident and self-vindicating, and found the public mind of the Colonists, not only prepared to yield a ready assent to the principles involved in them, but to give battle for their establishment upon the American Continent. It is not my purpose to undertake to explore, or trace, the causes which led to the Declaration of Independence, and to a pledge of life, fortune and sacred honor in its support; nor to follow the glorious history of the past hundred years, and note the progress and march of a civilization purely American, and the advancement of a people whose rise and growth, whose ascent into a higher national life, have been the marvel of the world, and unequalled in its history. Interesting and appropriate as this would be to the day and occasion, I am expected to occupy a narrower field, and confine myself to an historical account of the settlement and growth of our immediate neighborhood, to which, for a short time, I bespeak your patience.

In 1609, James the First granted to a company called the London Company, a charter under which the entire claim of Virginia to the soil northwest of the Ohio was asserted. It was clothed with corporate power, with most of its members residing in the city of London. The tract of country embraced within this charter was immense. It commenced its boundaries at Point Comfort, on the Atlantic, and run south two hundred miles, and thence west across the continent to the Pacific; commencing again at Point Comfort, and running two hundred miles north, and from this point northwest to the sea. This line run through New York and Pennsylvania, crossing the eastern end of Lake Erie, and terminated in the Arctic Ocean. The vast empire lying between the south line, the east line, the diagonal line to the northwest, and the Pacific Ocean, was claimed by virtue of this charter. It included over half of the North American Continent. Notwithstanding the charter of the London Company included all the territory now embraced within the boundaries of Ohio, James the First, on the 3d of November, 1620, by Royal Letters Patent, granted to the Duke of Lenox and others, to be known as the Council of Plymouth, all the territory lying between the fortieth and forty-eighth degree of north latitude, and bounded on the east by the Atlantic, and on the west by the Pacific. This description embraced a large tract of the lands granted to the Virginia or London Company. In 1630, a portion of the same territory was granted to the Earl of Warwick, and afterwards confirmed to him by Charles the First. In 1631, the the Council of Plymouth, acting by the Earl of Warwick, granted to Lord Brook and Viscounts, Say and Seal, what was supposed to be the same lands, although by a very imperfect description. In 1662, Charles the Second granted a charter to nineteen patentees, with such associates as they should from time to time elect. This association was made a body corporate and politic, by the name of the Governor and Company of the English Colony of Connecticut. This

charter constituted the organic law of the State for upwards of one hundred and fifty years. The boundaries were Massachusetts on the north, the sea on the south, Narragansett River or Bay on the east, and the South Sea on the west. The Pacific Ocean was at that time called the South Sea. This description embraced a strip of land upwards of sixty miles wide, stretching from the Atlantic to the Pacific, including a part of New York and New Jersey, and all the territory now known as the Western Reserve.

In 1681, for the consideration of 16,000 pounds, and a fealty of two beaver skins a year, Charles the Second granted to William Penn a charter embracing within its limits the territory constituting the present State of Pennsylvania. This grant included a strip of territory running across the entire length of the State on the north, and upwards of fifty miles wide, that was embraced within the Connecticut charter. Massachusetts, under the Plymouth charter, claimed all the land between the forty-first and forty-fifth degrees of north latitude. In 1664, Charles the Second ceded to his brother, the Duke of York, afterwards James the Second, by Letters Patent, all the country between the St. Croix and the Delaware. After the overthrow of the Government of "New Netherlands," then existing upon that territory, it was claimed that the grant to the Duke of York extended west into the Mississippi Valley.

Thus matters stood at the commencement of the Revolution. Virginia claimed all the territory northwest of the Ohio. Connecticut strenuously urged her title to all land lying between the parallels 41 and 42 deg. 2 min. of north latitude from the Atlantic to the Pacific. Pennsylvania, under the charter of 1681, had taken possession of the disputed land lying in that State, and had granted much of it to actual settlers. New York and Massachusetts were equally emphatic in the assertion of ownership to land between those lines of latitude. The contention between claimants under the Connecticut and Pennsylvania charters,

on the Susquehanna, frequently resulted in bloodshed. The controversy between those two States was finally submitted to a Court of Commissioners appointed by Congress, upon the petition of Pennsylvania, under the ninth article of the Confederation, which gave Congress power to establish a Court of Commissioners to settle disputed boundaries, between States, in case of disagreement. The Court decided in favor of Pennsylvania, and this decision terminated the controversy. The question of the title to land lying west of Pennsylvania was not involved in this adjudication, but remained a subject for future contention. A party sprung up during the war, that disputed the title of the States asserting it, to lands outside of State limits, and which insisted upon the right of the States by whose common treasure dominion was to be secured, to participate in the benefits and results arising from the joint and common effort for independence. This party was particularly strong in the smaller States. Those colonies that had not been the favored recipients of extensive land grants, were little inclined to acquiesce in claims, the justice of which they denied, and which could be secured to the claimants only by the success of the Revolution.

The convention that assembled in 1777 to frame a constitution for the State of Maryland, unanimously resolved that the very extensive claim of Virginia to the "back lands" had no foundation in justice, and that to acknowledge the claim would greatly endanger the liberties of the people; and in 1778, she called the attention of Congress to the matter, and made a relinquishment to the United States, of the claims of the individual States to the Western lands, a condition upon which, and upon which only, she would join the Confederation. She insisted as the whole people were engaged in a common cause, having a common end in view—the achievement of national independence—that if the outcome should secure to the country the vast domain stretching from the Alleghanies to the Mississippi, it should become the common

property of those by whose united labors it was thus secured.

Added to these embarrassments, the claiming States encountered a denial of their title to some of the lands claimed, emanating from the very source from which they were supposed to have derived it. George the Third, either repudiating the charters of his Royal predecessors, or rejecting the construction placed upon them in respect to their boundaries, in October, 1763, upon the heel of the treaty of Paris, issued his proclamation forbidding all persons from intruding upon, or disturbing the Indians in the enjoyment of, their lands, in the Valley of the Ohio.

There is little doubt that the conflict in the early charters respecting boundaries grew out of the ignorance of the times in which they were granted, as to the breadth, or inland extent, of the American Continent. During the reign of James the First Sir Francis Drake reported, that, from the top of the mountains on the Isthmus of Panama, he had seen both oceans. This led to the supposition that the continent, from east to West, was of no considerable extent, and that the South Sea, by which the grants were limited on the west, did not lie very far from the Atlantic; and as late as 1740, the Duke of Newcastle addressed his letters to the "Island of New England." Hence it was urged as an argument against the claims of those States asserting title to Western lands, that the call in the grants, of the South Sea, being, by mutual mistake of the parties to the charter, an erroneous one—the error resulting from misinformation or want of certainty concerning the locality of that Sea—the claiming States ought not to insist upon an ownership resting upon such a footing, and having its origin in such a circumstance. Popular feeling on the subject ran so high, at times, as to cause apprehension for the safety of the Confederation. In 1780, Congress urged upon the States having claims to the Western country, the duty to make a surrender of a part thereof to the United States.

The debt incurred in the Revolutionary contest, the limited

resources for its extinguishment if the public domain was unavailable for the purpose, the existence of the unhappy controversy growing out of the asserted claims, and an earnest desire to accommodate and pacify conflicting interests among the States, led Congress in 1784, to an impressive appeal to the States interested, to remove all cause for further discontent, by a liberal cession of their domains to the general Government, for the common benefit of all the States. The happy termination of the war found the public mind in a condition to be easily impressed by appeals to its patriotism and liberality. New York had in 1780, ceded to the United States the lands that she claimed lying west of a line running south from the west bend of Lake Ontario; and in 1785, Massachusetts relinquished her claim to the same lands —each State reserving the same 19,000 square miles of ground, and each asserting an independent title to it. This controversy between the two States was settled by an equal division between them of the disputed ground. Virginia had given to her soldiers of the Revolutionary war, and of the war between France and England, a pledge of bounties, payable in Western lands; and reserving a sufficient amount of land to enable her to meet the pledge thus given, on the 1st of March, 1784, she relinquished to the United States her title to all other lands lying northwest of the Ohio. The lands reserved north of the Ohio lay between the Scioto and Little Miami, and constitute what is known as the Virginia Military District. On the 14th day of September, 1786, the delegates in Congress from the State of Connecticut, being authorized and directed so to do, relinquished to the United States all the right, title, interest, jurisdiction, and claim, that she possessed to the lands lying west of a line running north from the 41st deg. of north latitude to 42 deg. and 2 min., and being one hundred and twenty miles west of the western line of Pennsylvania. The territory lying west of Pennsylvania for the distance of one hundred and twenty miles, and between latitude 41 and 42 deg. 2 min. north, al-

though not in terms reserved by the instrument of conveyance, was in fact reserved—not having been conveyed—and by reason thereof was called the Western Reserve of Connecticut. It embraces the counties of Ashtabula, Trumbull, Portage, Geauga, Lake, Cuyahoga, Medina, Lorain, Huron, Erie, all of Summit except the township of Franklin, and Green; the two northern tiers of townships of Mahoning; the townships of Sullivan, Troy, and Ruggles, of Ashland; and the Islands lying north of Sandusky, including Kelley's and Put-in-Bay. In 1795, Connecticut sold and conveyed all of the Reserve except the "Sufferer's Land," to Oliver Phelps and thirty-five others, for the consideration of $1,200,000. These purchasers formed themselves into a company called the Connecticut Land Company. Some uneasiness concerning the validity of the title arose from the fact that whatever interest Virginia, Massachusetts, or New York may have had in the lands reserved, and claimed by Connecticut, had been transferred to the United States, and if neither of the claiming States had title,the dominion and ownership passed to the United States by the treaty made with England at the close of the Revolution. This condition of things was not the only source of difficulty and trouble. The Reserve was so far from Connecticut, as to make it impracticable for that State to extend her laws over the same, or ordain new ones for the government of the inhabitants; and having parted with all interest in the soil, her right to provide laws for the people was not only doubted but denied. Congress had provided by the ordinance of 1787, for the government of the territory northwest of the Ohio; but to admit jurisdiction in the United States to govern this part of that territory, would cast grave doubt upon the validity of the company's title. It was therefore insisted that the regulations prescribed by that instrument for the government of the Northwest Territory, had no operation or effect within the limits of the Reserve. To quiet apprehension,and to remove all cause of anxiety on the subject, Congress, on the 28th of April, 1800, authorized

the President to execute and deliver on the part of the United States, Letters Patent to the Governor of Connecticut, whereby the United States released for the uses named, all right and title to the soil of the Reserve, and confirmed it unto those who had purchased it from that State. The execution and delivery, however, of the Letters patent were upon the condition that Connecticut should forever renounce and release to the United States, entire and complete civil jurisdiction over the territory released. This condition was accepted, and thereupon Connecticut transferred her jurisdiction to the United States, and the United States released her claim and title to the soil; and thus, while jurisdiction for purposes of government was vested in the United States, a complete title to the soil, in so far as the States could give it, was transmitted to the Connecticut Land Company and to those who had purchased from it. While this controversy was going on, there was another contestant in the field, having the advantage of actual occupancy, and in no wise inclined to recognize a title adverse to his, nor yield, upon mere invitation, a possession so long enjoyed. This contestant was the Indian. During the war between France and England, which terminated in 1763, the Indians espoused the cause of the French. They entered into an alliance with them, and joined in their battles. At the close of that war, the Mississippi was agreed upon, by the treaty of Paris, as the boundary between the British and French possessions in America. The claim of France to the domain lying east of the Mississippi, was surrendered to England. Soon after the close of the Revolution, the United States sought by peaceable means to acquire the title from the Indians, to the lands northwest of the Ohio, and on the 21st of January, 1785, concluded a treaty, at Fort McIntosh, with four of the Indian nations or tribes. These were the Wyandots, Delawares, Chippewas, and Ottawas. The section of country between the Cuyahoga and Maumee seemed to belong to the Wyandots; the region a little further south, and comprising the

section between the Muskingum and the Ohio, to the Delawares. By this treaty, the Cuyahoga, and the portage between it and the Tuscarawas,were agreed upon as the boundary on the Reserve, between the United States and the Wyandot and Delaware nations. All east of the Cuyahoga was, in effect, ceded to the United States. The Indians soon became dissatisfied, and refused to adhere to the terms of the treaty. Instead of resorting to arms to enforce its obligations, the United States entered into further negotiations with them, and on the 9th of January, A.D. 1789, another treaty was concluded at Fort Harmar,at the mouth of Muskingum, between Arthur St. Clair, acting for the United States, and the Wyandot, Delaware, Chippewa, Pottowatoma and Sac Nations. By this treaty the boundary line agreed upon by the treaty of Fort McIntosh was renewed and confirmed, and for the sum of $6,000 to be paid in goods, the Indians,among other lands, relinquished those lying east of the Cuyahoga, to the United States. The consideration agreed upon was paid.

But a short time, however, elapsed before the Indians,with characteristic disregard of their promises, refused to submit to the obligations of the new treaty. They reasserted their title to the lands conveyed. They declared that both treaties were made, and their assent to them obtained, under the menace and constraint of the guns of the forts; and, therefore, were not binding upon them—a conclusion necessarily following if the premises were true. The Government employed every effort to conciliate them, and to secure their observance of their engagements. Peaceful means failing, resort was had to arms. At first the Indians were successful in their resistance. Generals Harmar and St. Clair, who successively encountered them, were drawn into ambush,and defeated with great slaughter. General Wayne, in 1795,with a force of 3500 men, met the combined forces of the Indians on the Miami of the Lake, now the Maumee, and after a sanguinary conflict, gained a decisive victory. Nearly every

chief was slain. The spirit of the Indians being completely broken by their unexpected defeat in this contest, they met General Wayne in council, and the result was the Treaty of Greenville. This treaty was made between the United States and the Wyandots, Delawares, Shawanoes, Chippewas, Ottawas, Pattawatimas. Miamis, Eel Rivers, Weas, Kickapoos, Piankishaws and Kaskaskias. The Indians,submitting to imperative necessity, again yielded their claim to the lands east of the Cuyahoga, and made no further effort to regain them. It, however, for them, was a trying hour. Brought to realize that they must quit forever their hunting grounds, both memorable and sacred to them for the pleasures they had afforded, their bravest and best slain on the field of battle, they threw themselves upon the ground and bitterly wept, giving unrestrained expression to the wildest grief.

The Cuyahoga river, and the portage between it and the Tuscarawas, as between the United States and the Indians, constituted the western boundary of the United States, upon the Reserve, until July 4, 1805. On that day, a treaty was made at Fort Industry with the chiefs and warriors of the Wyandot, Ottawa, Chippewa, Munsee, Delaware, Shawanoee and Pattawatima Nations, by which the Indian title to all the lands of the Reserve lying west of the Cuyahoga, was extinguished. By this treaty all the lands lying between the Cuyahoga and the meridian, one hundred and twenty miles west of Pennsylvania, were ceded by the Indians for $20,000 in goods, and a perpetual annuity of $9,500, payable in goods at first cost. And although this annuity remains unpaid, because there is no one to claim it, the title to the land on the Reserve, west of that river, was forever set at rest.

During the Revolution, the British, aided by Benedict Arnold, made incursions into the heart of Connecticut, and destroyed a large amount of property in the towns of Greenwich, Norwalk, Fairfield, Danbury, New and East Haven, New London, Richfield and Groton. There were upwards

of 2,000 persons and families that sustained severe losses by the depredations of the enemy. On the 10th of May, 1792, the Legislature of that State set apart and donated to the suffering inhabitants of these towns, 500,000 acres of the west part of the lands of the Reserve, to compensate them for the losses sustained. These lands were to be bounded north by the shore of Lake Erie, south by the base line of the Reserve, west by its western line, and east by a line parallel with the western line of Pennsylvania, and so far from the west line of the Reserve, as to include within the described limits the 500,000 acres. These are the lands now embraced within the counties of Huron and Erie, and the township of Ruggles, in Ashland county. The Islands were not included. The lands so given were called "Sufferer's Lands," and those to whom given, were in 1796, by the Legislature of Connecticut, incorporated by the name of the "Proprietors of the half million acres of land lying south of Lake Erie." After Ohio had become an independent State, this foreign corporation was not found to work well here, not being subject to her laws, and to relieve the owners of all embarrassment, on the 15th of April, 1803, the Legislature of this State conferred corporate power on the owners and proprietors of the "Half million acres of land lying south of Lake Erie," in the county of Trumbull, called "Sufferer's Land." An account of the losses of the inhabitants had been taken in pounds, shillings and pence, and a price placed upon the lands, and each of the sufferers received land proportioned to the extent of his loss. These lands subsequently took the name of "Fire Lands," from the circumstance that the greater part of the losses suffered resulted from fire.

I have already mentioned the fact, that after this dedication to the sufferers, and in 1795, Connecticut sold the remainder of the lands of the Western Reserve, to a company, known as the Connecticut Land Company, for $1,200,000. The subscription to the purchase fund ranged from $1,683, by Sylvanus Griswold, to $168,185, by Oliver Phelps. Each

dollar subscribed to this fund entitled the subscriber to one-twelve-hundred-thousandth part in common, and undivided, of the land purchased. Having acquired the title, the company, in the following spring, commenced to survey the territory lying east of the Cuyahoga; and during the years of 1796 and 1797, completed it. The first surveying party arrived at Conneaught, in New Connecticut, eighty years ago to-day, and proceeded at once to celebrate the twentieth anniversary of American Independence. There were fifty persons in the party, under the lead of General Moses Cleaveland, of Canterbury, Conn. There will be found in Whittlesey's Early History of Cleveland, an extract from the journal, of Cleaveland, describing the particulars of the celebration. Among other things noted by him, was the following: "The day, memorable as the birthday of American Independence, and freedom from British tyranny, and commemorated by all good, free born sons of America, and memorable as the days on which the settlement of this new country was commenced, and (which) in time may raise her head among the most enlightened and improved States." A prophecy already more than fulfilled. I shall occupy but a few moments upon the particulars of the survey. The point where the 41st degree of north latitude intersected the western line of Pennsylvania was found, and from this degree of latitude, as a base, meridian lines, five miles apart, were run north to the lake. Lines of latitude were then run, five miles apart, thus dividing the territory into townships five miles square.

It was not until after the treaty of Fort Industry, in 1805, that the lands lying west of the Cuyahoga were surveyed. The meridians and parallels were run in 1806, by A. Tappen, and his assistants. The base and western lines of the Reserve were run by Seth Pease for the Government. The ranges of townships were numbered progressively west, from the western boundary of Pennsylvania. The first tier of townships, running north and south, lying along the border

of Pennsylvania, is range No. 1, the adjoining tier west, is range No. 2, and so on throughout the twenty-four ranges. The townships lying next north of the 41st parallel of latitude in each range, is township No. 1 of that range. The township next north is No. 2,and so on progressively to the lake. Ridgeville being in the sixteenth tier of townships from the Pennsylvania line, and in the sixth tier from the base line of the Reserve, is township No. 6, in range No. 16. Wellington is township No. 3, in range 18. Elyria township No. 6, in range 17. It was supposed that there were 4,000,000 acres of land between Pennsylvania and the Fire Lands. It the supposition had proved true, the land would have cost thirty cents per acre. As it resulted, there were less than 3,000,000 acres. The miscalculation arose from the mistaken assumption that the south shore of Lake Erie bore more nearly west than it does; and also from a mistake made in the length of the east and west line.

The distance, west from the Pennsylvania line, surveyed in 1796-7, was only fifty-six miles. That survey ended at the Tuscarawas River. To reach the western limit of the Reserve, a distance of sixty-four miles was to be made. Abraham Tappen and Anson Sessions entered into an agreement with the Land company, in 1805, to complete the survey of the lands between the Fire Lands and the Cuyahoga. This they did in 1806; and from the width of range 19, the range embracing the townships of Brownhelm, Henrietta, Camden, Brighton, Rochester and Troy, it is very evident that the distance from the east to the west line of the Reserve is less than 120 miles. This tier of townships is gore shaped, and is much less than five miles wide, circumstances leading the company to divide all south of Brownhelm into tracts, and use it for purposes of equalization. The west line of range 19, from north to south, as originally run, bears to the west, and between it and range 20, as indicated on the map, there is a strip of land, also gore shaped, that was left in the first instance unsurveyed, the surveyors not

knowing the exact whereabouts of the eastern line of the "half million acres" belonging to the sufferers. In 1806, Amos Spafford, of Cleveland, and Almon Ruggles,of Huron, were agreed on by the two companies to ascertain and locate the line between the Fire Lands and the lands of the Connecticut Company. They first surveyed off the "half million acres" belonging to the Sefferers, and not agreeing with Seth Pease, who had run out the base and west lines, a dispute arose between the two companies, which was finally adjusted before the draft, by establishing the eastern line of the Fire Lands where it now is. This left a strip of land east of the Fire Lands, called surplus lands, which was included in range 19, and is embraced in the western tier of townships of Lorain county. The mode of dividing the land among the purchasers was a little peculiar, although evidently just. An equalizing committee accompanied the surveyors, to make such observations and take such notes of the character of the townships, as would enable them to grade them intelligently, and make a just estimate and equalization of there value. The amount of the purchase money was divided into 400 shares, of 3,000 a share. Certificates were issued to each owner, showing him to be entitled to such proportion of the entire land, as the amount he paid, bore to the purchase price of the whole. Four townships of the greatest value were first selected from that part of the Western Reserve, to which the Indian title had been extinquished, and were divided into lots. Each township was divided into not less than 100 lots. The number of lots that the four townships were divided into, would at least equal the 400 shares, or a lot to a share, and each person, or company of persons, entitled to one or more shares of the Reserve—each share being one four hundredth part of the Reserve—was allowed to participate in the draft that was determined upon for the division of the joint property. The committee appointed to select the four most valuable townships for such division, was directed to proceed to select of the remaining

townships, a sufficient number, and of the best quality and greatest value, to be used for equalizing purposes. After this selection was made they were to select the best remaining township, and *this* township was the one, to the value of which all others were brought, by the equalization process of annexation, and if there were several of equal value with the one so selected, no annexations were to be made to them. The equalizing townships were cut up into parcels of various size and value, and these parcels were annexed to townships inferior in value, to the standard township, selected in the manner indicated, and annexations of land from the equalizing townships were made in quantity and quality to the inferior townships, sufficient to make them all equal in value to the township so selected.

The lands of Lorain county, that were taken for the purpose of equalizing townships of inferior value, were those of Rochester, Brighton, Camden, Black River, and that part of Henrietta that did not originally belong to Brownhelm. Tract 8, in range 19, being partly in Brighton, and partly in Camden, consisting of 3,700 acres,was annexed to LaGrange, to equalize it. Tract No. 3, in LaFayette township, Medina county, consisting of 4,810½ acres, was annexed to Penfield. Tract 1, in gore 4, in range 11, consisting of 2,225 acres, was annexed to Eaton. Tract 2, in gore 4, range 11, consisting of 2,650 acres, was annexed to Columbia; 1,700 acres, in tract 4, in Rochester, were annexed to Huntington; 2,769 acres, in fraction No. 3, in range 11, Summit county, were annexed to Ridgeville; 4,600 acres, in tract 9, in Camden, were annexed to Grafton; 4,000 acres, tract 7, in Brighton were annexed to Wellington; 4,300 acres, in tract 3, gore 6, range 12, were annexed to Russia; 1,500 acres, in tract 14, in Henrietta, were annexed to Sheffield; 3,000 acres in tract 11, in Camden, were annexed to Pittsfield; tract 3, consisting of 4,050 acres, in Rochester, was annexed to Elyria; 4,000 acres, in tract 2, in Black River, were annexed to Amherst; Bass Islands, No. 1, 2 and Island No. 5, lying north

of Erie county, consisting of 2,063 acres, were annexed to Avon; and Kelley's Island, consisting of 2,741 acres, was annexed to Carlisle. After the townships were all made equal in value by the process of tacking and annexation, they were drawn by lot. There were ninety-three townships, or equalized parcels drawn east of the Cuyahoga, and forty-six on the west. The draft of the lands east of the Cuyahoga, took place prior to 1800, and of those west of that river on the 4th of April, 1807. In the draft of the lands east of the river, it required an ownership of $12,903.23 of the original purchase money, to entitle the owner to a township; and in the draft of those west of the river, which included the lands of Lorain county, it required an ownership of $26,087 in the original purchase money, to entitle the owner to a township. The same mode and plan were followed in each draft. The townships were numbered, and the numbers on separate pieces of paper, placed in a box. The names of the proprietors, who had subscribed, and were the owners of a sufficient amount of the purchase money to entitle them to a township, were arranged in alphabetical order, and where it was necessary for several persons to combine, because not owning severally a sufficient amount of the purchase money, or number of shares, to entitle them to a township, the name of the person of the company that stood alphabetically first, was used to represent them in the draft, and in case the small owners were unable from disagreement among themselves, to unite, a committee was appointed to select and class the proprietors, and those selected were required to associate themselves together for the purpose of the draft. The township, corresponding to the first number drawn from the box, belonged, with its annexations for purposes of equalization, to the person whom he represented; and the second drawn, belonged to the second person, and so on throughout the list. This was the mode adopted to sever the ownership in common, and to secure to each individual, or company of individuals, their interest in severalty, in

what, before then, had been the common property of all. When a township, by the draft, became the property of several, resort was had to the courts after their organization here, to effect partition of the same. Soon after the conveyance to the Land Company, to avoid complications arising from the death of its members, and to facilitate the transmission of titles, the company conveyed the entire purchase, in trust, to John Morgan, John Cadwell and Jonathan Brace; and as titles were wanted, either before or after, the division by draft, conveyances were made to the purchasers by these trustees.

Little was known of the south shore of Lake Erie, and the adjoining country, until near the close of the 18th century. It was formerly inhabited by the nation of Indians called the Erigas, or Eries, from which the Lake took its name. This nation was destroyed by the Iroquois, or Five nations.

Charlevoix, in his "History of New France," published in 1744, in speaking of the country south of, and bordering on Lake Erie, says: "All this shore is nearly unknown." An old French map, made in 1755, to be seen in the rooms of the Western Reserve Historical Society in Cleveland, names the country between the Cuyahoga and Sandusky rivers, as Canahogue; and east of the Cuyahoga, as Gwahoga. This is also the name given to that river which is made to empty into Canahogue Bay; and the country designated as Canahogue, is indicated as the Seat of War, the Mart of Trade, and the Chief Hunting Grounds of the Six nations of the Lake. But Civil Government was not organized on the Western Reserve until the year 1800. The governor and judges of the northwest territory, under the ordinance of 1787, in 1788, by proclamation, organized the County of Washington, and included within it, all of the Western Reserve east of the Cuyahoga; and in 1796, the year of the first settlement of New Connecticut, the county of Wayne was erected, which included over half of Ohio, all of the Western Reserve west of the Cuyahoga; with a part of In-

diana, all of Michigan, and the American portion of Lakes Superior, Huron, St. Clair and Erie to the "mouth of the Cuyahoga." The County Seat of Wayne county was Detroit. In 1797, Jefferson County was established, and the Western Reserve, east of the Cuyahoga, became a part of it, by restricting the limits of Washington. As before remarked, Connecticut and the Land Company refused to recognize the jurisdiction of the United States, prior to 1800. The act of inclusion of their western land within the counties of Washington, Jefferson and Wayne, they declared to be unwarranted, and the power of Congress to prescribe rules for the government of the same, they denied; and from the opening settlement, in 1796, until the transfer of jurisdiction to the general Government was complete, on the 30th of May, in 1800, the new settlers were entirely without municipal laws. There was no regulation governing the transmission of, or succession to, property on the decease of the owner. No regulations of any kind securing the protection of rights, or the redress of wrongs. The want of laws for the government of the settlers was seriously felt, and as early as 1796, the company petitioned the Legislature of Connecticut, to erect the Reserve into a county, with proper and suitable laws, to regulate the internal policy of the territory for a limited period. This petition, however, was not granted, and for upwards of four years the intercourse and conduct of the early settlers were regulated and restrained only by their New England sense of justice and right. But on the 10th of July 1800, after Connecticut had released her jurisdiction to the United States, the Western Reserve was erected into a county, by the name of Trumbull, in honor of the governor of Connecticut, by the civil authority of Ohio.

At the election in the fall of that year, Edward Paine received thirty-eight votes out of the forty-two cast for member of the Territorial Legislature. The election was held at Warren, the County Seat. This was the first participation that the settlers had in the affairs of government here. Dur-

ing the same year, the Court of Quarter Sessions, a tribunal that did not survive the Constitution of 1802, was established and organized, and by it the county was divided into eight organized townships. The township of Cleveland was one, and embraced not only a large portion of territory east of the Cuyahoga, but all of the Reserve lying west of that river. This spot was once a part of that township. On December 1, 1805, the county of Geauga was erected. It included within its limits nearly all of the present counties of Ashtabula, Geauga, Lake and Cuyahoga. On the 10th day of February, 1807, there was a more general division into counties. That part of the Western Reserve lying west of the Cuyahoga and north of township No. 4, was attached to Geauga, to be a part thereof, until Cuyahoga should be organized. All of the present county of Lorain, north of Grafton, La Grange, Pittsfield and Camden, belonged to, and was a part of the county of Geauga, from February 10, 1807, until January 16, 1810. At that date, 1807, Ashtabula was erected out of Trumbull and Geauga, to be organized whenever its population would warrant it. Also, all that part of Trumbull which lay west of the fifth range of townships, was erected into a county by the name of Portage, and all of the Western Reserve, west of the Cuyahoga and south of township No. 5, was annexed to, and declared to be a part of Portage. So that all of the present county of Lorain, south of Eaton, Carlisle, Russia and Henrietta belonged to and was a part of Portage, and remained a part of it until January 22, 1811. On the 10th day of February, 1807, the county of Cuyahoga was carved out of Geauga, to be organized whenever its population should be sufficient to require it. On the 16th of January, 1810, the population having become sufficient, the county was declared organized. On February 8, 1809, Huron was erected into a county covering the Fire Lands, but to remain attached to Geauga and Portage, for the time being, for purposes of government.

On January 22, 1811, the boundary line of Huron was ex-

tended east, on the line now dividing Camden and Henrietta, Pittsfield and Russia, Carlisle and La Grange, to the southwest corner of Eaton; and from there, north on the line dividing Carlisle and Eaton, and Elyria and Ridgeville, to the northwest corner of Ridgeville; thence west to Black River, and down the same to the Lake. On the day that these lines were so altered and extended, the Legislature extended the south line of Cuyahoga county, from the southwest corner of Strongsville, west to the southwest corner of Eaton; thence north, between Eaton and Carlisle, to the northwest corner of Eaton; and from that point, west between Elyria and Carlisle, to the east branch of Black River, and down the same to the Lake. Here was a conflict in boundaries. The boundary of Huron county included all of Elyria, extending east to Ridgeville; and the boundary of Cuyahoga included within its limits that part of Elyria lying east of the east branch of the river. The river was the dividing line between the two counties, in the one act; and the line between Elyria and Ridgeville was the dividing line in the other. This conflict was removed at the next session of the Legislature, by adopting the township line, instead of the river, as the boundary line between the two counties, at this point. This adjustment of boundaries gave to Huron county the townships now known as Elyria, Carlisle, Russia, Henrietta, Brownhelm, Amherst and all of Black River, and Sheffield lying west of the river; and to Cuyahoga county, Eaton, Columbia, Ridgeville, Avon, and all of the townships of Black River and Sheffield lying east of the river. At that date, 1811, the territory now comprising the county of Lorain, belonged to the counties of Huron, Cuyahoga, and Portage.

The county of Huron, although established in 1809, and extended east of Black River in 1811, was annexed to Cuyahoga in 1810, for judicial and other purposes, and remained so annexed, until January, 1815, when it was organized, and assumed control of its own affairs.

On the 18th day of February, 1812, Medina was formed, and comprised all of the territory between the eleventh range of townships and Huron county, and south of townships number five. It therefore included all of the present county of Lorain, south of Eaton, Carlisle, Russia and Henrietta. On the 14th day of January, 1818, that county was organized, and its local government put into operation, it remaining in the interim, from the date of its formation to the date of its organization, attached to the county of Portage, for county purposes. On the 26th of December, 1822, Lorain county was established. It took from the county of Huron the territory embraced in the townships of Brownhelm, Henrietta, Amherst, Russia, Elyria and Carlisle, and those parts of the townships of Black River and Sheffield that lie on the west of Black River; and from the county of Cuyahoga the townships of Troy, (now Avon), Ridgeville, the west half of Olmsted, (then called Lenox), Eaton, Columbia, and those parts of Black River and Sheffield lying east of the river; and from the county of Medina, Camden, Brighton, Pittsfield. LaGrange, and Wellington. The county, as originally formed, embraced seventeen and one-half townships, which, until the county was organized, were to remain attached to the counties of Medina, Huron and Cuyahoga, as formerly. It was, however, organized independently, and went into operation on the 21st day of January, 1824. In the organization of the county, it was provided that the first officers should be elected in April, 1824; and at that election, that part of Lenox that was brought into Lorain, should vote at Ridgeville, and that part of Brighton, lying in Medina before then, should vote in the adjoining township of Wellington. On January 29, 1827, the boundary lines were changed. The townships of Grafton, Penfield, Spencer and Homer, Huntington, Sullivan, Rochester and Troy—some of them organized and some not—were detached from Medina, and annexed to, and become a part of, Lorain; and the half of Lenox belonging to

Lorain, was set off to Cuyahoga, to be a part of Middlebury, until otherwise provided. Upon the formation of the county of Summit, in 1840, the townships of Spencer and Homer were reattached to Medina; and upon the formation of Ashland county, in February, 1846, Sullivan and Troy were detached from Lorain, and made a part of that county. Prior to this, and on the 29th of January, 1827, an act was passed, fixing the northern boundary of the county. The mode of forming and organizing the counties had been such as to leave unsettled the northern limit of the counties of Ashtabula, Geauga, Cuyahoga and Lorain. And in matters involving the exercise of criminal jurisdiction of offenses committed on the lake, in the vicinity of the shore, the question was of too much practical importance to be left in doubt. The treaty between the United States and Great Britian, fixed the line running through the middle of the lakes as the dividing line between the two countries. Connecticut had reserved the land between the 41st degree of north latitude and 42 deg. and 2 min. The course and shape of Lake Erie were such that the parallel of 42 deg. and 2 min. would cross the middle line of the lake; and adjoining Ashtabula, that degree of latitude would be south of, and adjoining Lorain north of, the boundary line between Canada and the United States. It was therefore declared, by this act, that the northern boundary of these four counties should extend to the northern boundary of the United States. This carried the northern boundary of Lorain to the middle of Lake Erie, without regard to the northern limit of the Western Reserve.

Before recounting the incidents connected with the early settlement and organization of the county, and the townships comprising it, brief allusion should be made to a fact connected with the history of the Reserve, respecting its common schools. By the ordinance of Congress, of 1785, it was declared that section 16 of every township should be reserved, for the maintenance of public schools in the township. The ordinance of 1787, reaffirmed the policy thus de-

clared. The provisions of these ordinances, in this respect, were not applicable to, nor operative over, the region of the Reserve, because of the fact that the United States did not own its soil; and although the entire amount paid to Connecticut by the Land Company, for the territory of the Reserve, was set apart for, and devoted to, the maintenance of public schools in that State, no part of that fund was appropriated to purposes of education here. Here was an inequality of advantages between the people of the Reserve and of the remainder of the State, in that respect. This inequality was, however, in a measure, removed in 1803, by an act of Congress, which set apart and appropriated to the Western Rererve, as an equivalent for section 16, a sufficient quantity of land in the United States Military District, to compensate the loss of that section to school purposes, in the lands lying east of the Cuyahoga. This amount was equal to one thirty-sixth of the land of the Reserve, to which the Indian title had, before that time, been extinguished. The Indian title to the lands of the Reserve west of the Cuyahoga, not then having been extinguished, the matter seemed to drop from public notice, and remained so until 1829. At this date, the Legislature, in a Memorial to Congress, directed its attention to the fact, that by the Treaty of Fort Industry, concluded in 1805, the Indian title to the land west of the Cuyahoga, had been relinquished to the United States, and prayed in recognition of the fact, that an additional amount of land lying within the United States Military District, should be set apart for the use of the public schools of the Reserve, and equal in quantity to one-thirty-sixth of the territory ceded to the United States by that Treaty. The Memorial produced the desired result. In 1834, Congress, in compliance with the request of the Legislature, granted such an additional amount of land to the Reserve for school purposes, as to equalize its distribution of lands for such purpose, and in furtherance of its object to carry into effect its determination, to donate one-thirty-sixth part of the public

domain to the purposes of education. The lands first allotted to the Reserve, for such purpose, were situated in the counties of Holmes and Tuscarawas, and in 1831, were surveyed and sold, and the proceeds arising from their sale, as well as the funds arising from the sale of those subsequently appropriated, were placed, and invested with other school funds of the State, and constitute one of the sources from which the people of the Reserve derive the means of supporting and maintaining their common schools. This fund is called the Western Reserve school fund.

In undertaking to notice some of the events, connected with the early settlement of the townships of the county, I fully appreciate the liability to error. But very few of the early settlers are left to recount the incidents, privations, and rude pleasures of early life. Tradition is not always reliable, and memory, once fresh and faithful, fades with the approach of advancing years. We venture only a glance at the township history, and vouch only its general accuracy. In September, 1807, a company of thirty persons left Waterbury, Connecticut, for the township of Columbia. They were Calvin Hoadley, his wife, and five children; Lemuel Hoadley, wife, and three children, his father, and his wife's mother; Lathrop Seymour, and wife; John Williams, wife, and five children; a Mrs. Parker, with four children; Silas Hoadley and Chauncey Warner; Bela Bronson, wife, and child. This company were two months in reaching Buffalo, and in undertaking the journey from there, by the lake, were overtaken by disaster, and thrown ashore. Many of them were compelled to make the journey from the spot where Erie now is, on foot, nearly to Cleveland.

The greater part of this company stopped at Cleveland and remained through the winter. But Bela Bronson, wife and child; Levi Bronson, John Williams, and Walter Strong, pushed across the Cuyahoga, cut their way through the wilderness to Columbia, erected a log house, and commenced pioneer life. They were eight days in cutting their

way from Cleveland to Columbia. In the winter of 1807-8, the families of John Williams and James Geer, arrived ; and in the spring and summer of 1808, those who remained at Cleveland during the winter, arrived also. At the apportionment, by draft, in 1807, Levi Bronson, Harmon Bronson, Azor Bronson, Calvin Hoadley, and Jared Richards, had formed an association called the Waterbury Land Company. This company, Benjamin Doolittle, Jr., Samuel Doolittle, and William Law, drew that township, as No. 5, Range 15, with 2,650 acres in Richfield and Boston, in Summit county, annexed, to equalize it. Columbia, at the time of its organization, which took place in 1809, was a part of Geauga county. The first election was held on the first Monday of April, of that year, at the house of Calvin Hoadley. There were nineteen voters at the election. Calvin Hoadley, Jared Pritchard, and John Williams were elected trustees. Bela Bronson was elected clerk. Having no use for a treasurer, none was elected. Lathrop Seymour was elected constable ; and to provide him employment, in May following, Nathaniel Doan was elected Justice of the Peace. All of Geauga county lying west of Columbia, was annexed to that township for judicial and other purposes. The jurisdiction of that judicial functionary, covered, in territorial extent, nearly an empire. The plaintiff in the first action brought before him, lived on Grand River, and the defendant on the Vermillion. It was the case of Skinner v. Baker. The plaintiff had judgment, which was paid, not in legal tender, but in labor. The first school taught was in the summer of 1808, by Mrs. Bela Bronson, in the first log house erected. The first winter school was taught by Bela Bronson, in the blacksmith shop, during the winter of 1809-10. In August, 1812, after the commencement of the war between England and the United States, an event transpired which occasioned feelings of great apprehension and alarm, not only to the pioneers of Columbia, but to the inhabitants of the entire Reserve. Information came, and spread rapidly, that the

British, and their allies, were approaching the settlements with intent to kill and massacre the inhabitants. A large party had been seen landing at Huron, which was supposed to be the forces of the enemy. Men, women and children fled from their homes in terror. As the inhabitants of Ridgeville reached Columbia, in their flight, they found the Columbia settlement nearly abandoned. This flight, however, lasted but a short time, when Levi Bronson, returning from Cleveland, brought the news, that the persons landed at Huron, were the prisoners that Hull surrendered, at Detroit, to the British. On the return of those who had sought safety in flight from Columbia, the elder Bronson, who had refused to join them, informed them that "the wicked flee, when no man pursueth." The inhabitants of Columbia, Ridgeville, Middlebury, and Eaton, at once joined in the erection of a Block House, just south of the center of the town. This was the fortress, to which to flee for safety, in an hour of danger. Captain Hoadley had the honor of commanding this post. A company was organized to garrison it; but we are well informed that the enemy had not the temerity to come within reach of its guns. The Captain and his men were mustered into the service, and paid as soldiers of the United States army. Able-bodied men constituted the garrison, while the old men, women and children, were left unprotected, at their homes, to cultivate the soil, and receive the first assault of the expected foe. I believe, however, that the roar of the cannon, off Put-in-Bay Island, on the 10th of September, 1813, was the first and the last heard of the enemy after these military preparations for defense were made. The first mail, west of Cleveland, was carried by Horace Gun, in 1808. The route was from Cleveland to Maumee. The only houses on the route were one at Black River, occupied by Azariah Beebe, and one at Milan, occupied by a Frenchman by the name of Flemins. In 1809, the mail over this route was carried by Benoni Adams, of Columbia. It required two weeks to make the trip. The

only road was an Indian trail, along the lake, and the carrier went on foot. There was no postoffice between Cleveland and the Maumee, no way mails, and but few who could either read or write. The carrier was compelled, from its extent, to lodge one night in the Black Swamp.

RIDGEVILLE.

Town No. 6, in the 16th range of townships, (Ridgeville,) was drawn by Ephraim Root, a lawyer of Hartford. For a few years after its settlement, it was called Rootstown. In 1809-10, Oliver Terrell, Ichabod Terrell, and David Beebe, residents of Waterbury, exchanged lands by them owned there, for a little over one-fourth of the the township of Ridgeville. In the spring of 1810, David Beebe, and his sons, David and Loman; Philander and Oliver Terrell, sons of Ichabod; Joel Terrell and Lyman Root, left Waterbury, and after a long journey, reached Ridgeville. These were the first settlers. On the 6th of July, of that year, Tillotson Terrell arrived, with his wife and three children. His was the first family that settled in the township. In the summer of that year, David Beebe, Jr., returned to Waterbury, and brought on the family of his father, and the wife and children of Lyman Root. At the same time, Ichabod Terrell, his wife Rhoda, and five children; his father, and Asa Morgan, his teamster, exchanged their Connecticut homes, and comforts, for the untried experiences of frontier life. Oliver Terrell, father of Ichabod, upwards of eighty years of age, made the entire trip on horseback. They reached Ridgeville in the Fall, cutting a wagon road from Rocky River to the place of destination. They were two days and three nights, en route, from Rocky River. The company that came on in the spring had built a small cabin of logs of such size as so few could carry, the roof being of bark, and the floor of mother earth. This cabin was built in the first clearing made, and on land now owned by John Lans-

bury. Here all had lived together, and kept bachelor's hall. Upon the arrival of Tillotson Terrell and family, in the early part of July, he "moved in" and remained until the erection of a log house for himself and family, on the premises now owned by Mrs. Harry Terrell. This was not long after his advent into the town. About the same time, David Beebe, Sr., built a log house, a little west, nearly opposite the residence of the late Garry Root. These log cabins were an improvement on the one previously built, in one respect at least: each had a puncheon floor, and an opening for a window. As window-glass was an article not possessed, foolscap paper was employed in its stead; and while it was a poor instrument to exclude the cold air from the rude dwelling, it was the best means possessed as a substitute, for the admission of light. Joel Terrell, one of the first of the spring company, returned to Connecticut in 1810, and remained until 1811, when, with his family, he directed his steps again westward, to his future home. The families of David Beebe, Sr., Lyman Root, and Ichabod Terrell, that came on in the fall of 1810, consisted of twenty persons. They were seven weeks on the way. Two yokes of oxen to a wagon, with a horse as a leader, constituted the motive power that conveyed them hither.

Rhoda Terrell, the wife of Ichabod, was a survivor of the Wyoming Massacre; and at her death, occurring over twenty years ago, left ninety-one grand children, and a large number of great grand children surviving her. The first school house was erected near the centre of the town, on the spot where the Tuttle House now stands. It was consumed by fire in 1814. The first framed house was built by Major Willis Terrell. The first mill for grinding flour was the offspring of necessity. It was erected near where Tillotson Terrell built his log house. It was the Mortar and Pestle. A log about three feet in length, cut from a pepperage tree, set on its end, burned out round in the top, with a pestle attached to a spring pole; these were the sum total of its parts

and its mechanism. This was a familiar and friendly acquaintance of the neighboring inhabitants, and by them was kept in constant use, until time and means brought in better days. In 1812-13 Joseph Cahoon, of Dover, built a grist mill on the small creek at the centre. Capt. Hoadley, of Columbia, possessed a hand grist mill; and in the winter of 1816-17 a mill was built at Elyria, thus removing the necessity for the further use of the Mortar and Pestle.

The township of Ridgeville was organized in 1813. At the spring election of that year there were fifteen voters; and they were all at election. Judges of election were provided, and the polls were opened. David Beebe, Ichabod Terrell and Joel Terrell were elected trustees. Joel Terrell was elected justice of the peace; David Beebe, Jr., constable, and Willis Terrell township clerk. A post office was established in 1815, and Moses Eldred appointed postmaster. Up to this date the Cleveland post office was the nearest. Town No. 5, in the same range (Eaton), was included in the organization of Ridgeville. It required a population having ten electors to secure the privileges resulting from the civil organization of a township, and where the population was not sufficient in a surveyed town to secure incorporation as a township, two or more towns could unite, and thus secure such privileges. And such union usually continued, until by the increase of population the number of electors required to secure individual and independent organization became residents of the town. Adjoining towns, with less than the required number of electors to secure incorporation, were annexed to organized townships, for the purpose of civil and judicial administration; and they remained so annexed until of sufficient growth to entitle them to separate and independent incorporation. During the continuance of the annexation, the inhabitants of the annexed territory were to all intents and purposes, citizens of the township to which annexed, with the same privileges, and subject to the same exactions as actual residents therein. It will be seen

that the practice of uniting surveyed towns for civil purposes, and of annexations for like purposes, were of frequent occurrence and necessity.

BLACK RIVER.

The earliest attempted permanent settlement was at the mouth of Black River. In 1787, a few Moravian ministers, missionaries among the Delawares and other tribes, with a band of Christian Indians, undertook to make a permanent settlement at that point. In the spring of that year they removed from Pilgrim's Rest, on the Cuyahoga, to the place contemplated as their new abode. Here they hoped to establish a centre, and plant the seeds of the Christian civilization of the Indians. Their hopes, however, were not to be realized. They had remained but a few days upon the spot selected, when a message from the chief of the Delawares, commanding them to depart from the Black River, was received, and at once obeyed. This was the first settlement in what is now the county; for although temporary and but of short duration, it was a settlement in fact, coupled with an intent to remain. No further attempt was made to settle at the mouth of the river until 1807. In the survey of the previous year, Black River had been divided into three parts —Gore No. 1, Tract No. 2 and Gore No. 3. It was not drawn as a township, but, as before stated, was used for purposes of equalization; Gore 1 was annexed to Olmsted, Tract 2 to Amherst, and Gore 3 to the township of Medina. The persons who drew the three last named townships became respectively the owners of Black River. The first family that settled in Black River was that of Azariah Beebe, consisting of himself and wife. This was in 1807. Nathan Perry, Jr., son of Nathan Perry, of Cleveland, both of Vermont, opened a store at Black River in the same year for trade with the Indians. Beebe and wife were in his employment, and he boarded in their family. They took up

their residence east of the river, remained a few years and left. No addition was made to the settlement until 1810. In the spring of that year, Daniel Perry, an uncle of Nathan Jr., settled with his family near the mouth of the river. He, also, was from Vermont. His stay, however, was not permanent, as he remained but a few years, then moved to Sheffield, whence, after a short residence there, he removed to Brownhelm, where he spent the remainder of a very useful life. During the same year, 1810, additions were made to the town by the arrival of Jacob Shupe, Joseph Quigley, George Kelso, Andrew Kelso, Ralph Lyon, and a Mr. Seely. Some of these soon took up their abode in No. 6—Amherst. In the following year, 1811, there came John S. Reid, Quartus Gilmore, Aretus Gilmore, and William Martin. The first named of this company, John S. Reid, was a man of great energy of character, and soon became prominent, as the leading citizen of the town. He was one of the first three Commissioners upon the organization of the county, in 1824; and before then, and while Black River was a part of Huron county, he was, in 1819, a Commissioner of that county. He was one of the Commissioners of Huron county that directed the joint organization of Elyria and Carlisle. He died in 1831. His son, Conrad, has lived in Black River for sixty-five consecutive years. He and Mrs. Slater, daughter of William Martin, are the only surviving residents of 1811. Quartus and Aretus Gilmore were sons of Edmund, who removed to Black River with his family in 1812. He was the owner of a large tract of land in Black River and Amherst. He built, in that year, the first framed barn ever built in the county.

On the 14th of November, 1811, the township of Dover was organized by the Commissioners of Cuyahoga county. It included within its defined limits the present townships of Dover, Avon, Sheffield, and that part of Black River east of the river; and on the 12th of March, 1812, the territory now comprising the townships of Elyria, Amherst, all of Black

River west of the river, and Brownhelm, were attached to Dover, for township purposes. They remained so attached until Vermillion was organized, when the towns now known as Amherst, Brownhelm, and Black River, west of the river, were annexed to that township. On the 27th of October, 1818, the township of Troy was organized into a separate township and included the present towns of Avon, and all of Sheffield and Black River lying east of the river. It will be remembered that Huron county was organized in 1815, and was extended east of Black River, and for a distance, beyond it. At the February session, in 1817, of the commissioners of Huron county, it was ordered that township No. 6 (Amherst), and that part of No. 7 (Black River), in the 18th Range, which lay in the county of Huron, with all the lands thereto attached in said Huron county, be set off from the township of Vermillion, and organized into a separate township, by the name of Black River. Thus Amherst, Black River, and Brownhelm, were first organized as Black River.

In June, 1824, the corner of the town lying east of the river was annexed to Black River township for judicial purposes. The first election for township officers, for Black River township, was held in April, 1817. The names of all the officers elected are not known. There were two post offices in the town. The Black River post office was located on the South Ridge, now South Amherst, and the other was named "The Mouth of Black River Post Office," and was kept at the mouth of the river. Eliphalet Redington was the first postmaster of the office at Black River, and John S. Reid of the mouth of Black River post office.

BROWNHELM.

Of Brownhelm, I shall say but little. Her "early settlement and history" were, years ago, put into enduring shape by one familiar with the incoming and outgoing of her people, during a growth of fifty years. On the 4th of July,

1867, at the celebration of the semi-centennial anniversary of her first settlement, the scenes and incidents connected therewith were narrated with interesting detail by President Fairchild, of Oberlin College. The town was drawn in the draft by Asher Miller and Nathaniel Shalor. Originally it was bounded south by tracts 14 and 15, in range 19. It included nearly one-third of Henrietta. In 1816, Col. Henry Brown, from Stockbridge, Massachusetts, entered the township, then known as No. 6, Range 19, and built the first log house. He was accompanied here and assisted in building by Peter P. Pease, Charles Whittlesey, William Alverson, and William Lincoln. Seth Morse and Renessalaer Cooley also assisted in building the house. Morse and Cooley returned to the East for the winter. Pease, Whittlesey, Alverson and Lincoln remained here. On the 4th of July, 1817, the families of Levi Shepard, Sylvester Barnum and Stephen James arrived, and after celebrating the Fourth on the shore, entered upon pioneer life near the log house of Brown. These were the first families that settled in the town. During the same year the families of Solomon Whittlesey, Alva Curtis, Benjamin Bacon and Ebenezer Scott arrived. In 1818, many other families were added, giving hope of a speedy filling up of the town. They were those of Col. Brown, Grandison Fairchild, Anson Cooper, Elisha Peck, George Bacon, Alfred Avery, Enos Cooley, Orrin Sage, John Graham and others. There were other families that arrived and settled in the south part of the town, subsequently set off to Henrietta. They will be named in connection with the mention of that town. The first framed house in the town was built by Benjamin Bacon. The first brick house in the county was built by Grandison Fairchild in the summer of 1819. Mrs. Alverson gathered the children of the neighborhood together and taught the first school in the town. Her own house was the school house. The log school house was built on the brow of the hill, in the fall of the same year, and because of its pretentious dimensions, for

the times—18 by 22—the street upon which it stood received the name of Strut street, and bore it for many years. Grandison Fairchild taught the school the first two winters, receiving his tuition in chopping. Labor and produce were the currency employed for the exchange of values. Money was very scarce, and nearly all debts, except the one incurred in the purchase of lands, were paid in labor, its products, and those of the soil.

From February, 1817, until October, 1818, the town was a part of Black River. At the latter date, on the petition of the inhabitants to the Commissioners of Huron county, No. 6, in the 19th Range, together with the surplus lands adjoining west, and all lands lying west of Beaver creek, in No. 7, 18th Range, (Black River), was organized into a separate township by the name of Brownhelm. Col. Brown had the honor to select the name. Township officers were elected at the spring election in 1819, held at the house of George Bacon. Calvin Leonard, Levi Shepard and Alva Curtis were elected trustees; Anson Cooper, township clerk; William Alverson, treasurer; Benjamin Bacon and Levi Shepard, justices of the peace. This perfected the township organization. That part of the present town of Black River lying west of Beaver creek was, in June, 1829, by order of the Commissioners, detached from Brownhelm, and re-annexed to Black River.

GRAFTON.

Town No. 4, Range 16, was drawn by Lemuel Storrs. In May, 1816, from fifteen to eighteen men left Berkshire county, Massachusetts, and journeyed hither for the purpose of selecting and locating lands for which they either had exchanged, or were to exchange, lands owned by them in that State. Among these men were Jonathan Rawson, John and George Sibley, Seth C. and Thomas Ingersoll, sons of Major William Ingersoll, and brothers of Mrs. Harriet Nesbitt, whose reminiscences of the town, in its early days, have

been so recently, and so happily given to the public. The selection was made and all returned East, except the Sibleys, and men employed by Rawson to remain and work at clearing the forest. In the fall of that year, Major William Ingersoll moved his family into the town, arriving on November 4th. He settled just east of Kingsley's Corners, on land selected by his sons in the spring. This was the first family that settled in the town. The journey was made with a span of horses, and three yoke of oxen. A small shanty had been built on the land of the Sibleys, and upon their invitation, it was occupied by the family of Major Ingersoll for about two weeks, during which time, he and the boys erected a log house upon land of his own. In February, 1817, the family of William Crittenden arrived. This was family No. 2. In the month of March following, came the families of the Rawsons, Boughtons, Sibleys and Nesbits; and a little later in the same season the families of Captain William Turner, Aaron Root and Bildad Beldin; and not long after the family of David Ashley. An attack was at once made upon the thick forest, and within twelve months from the arrival of Major Ingersoll, twelve log houses were erected, that gave shelter to ninety-seven persons. During the following year, additions were made by the arrival of many other families.

This township then belonged to Medina county, which was formed in 1812, but as elsewhere stated, for want of population, was not organized until January, 1818. From its formation to its organization, it remained attached to Portage county, where the deeds of the early settlers were recorded. On the 25th of July, 1818, on petition of the inhabitants, the town was incorporated by the name of Grafton by the Commissioners of Medina county. At the first election held in August, 1818, Eliphalet Jones, William Ingersoll and William B. Crittenden were elected trustees; William Bishop, clerk; Reuben Ingersoll, treasurer; David Ashley, appraiser of property; Grindel Rawson and Seth C. Inger-

soll, fence viewers. Previous to the organization of the township, it had been attached to Liverpool for judicial purposes, and in April, 1818, Reuben Ingersoll had been elected justice of the peace, at the election held at that town.

The first school was taught by Miss Mary Sibley, in 1818, in the log school house built near the residence of Capt. William Turner. During the same year a church was organized by Rev. T. Brooks. The pioneer life of the early settlers of Grafton furnishes many amusing incidents, one of which shows the inventive power of necessity. When Guy Boughton was on his way from Massachusetts, he sold to Heman Ely a double wagon, and agreed to deliver it at town No. 6, Range 17. On reaching Grafton he found there were twelve miles of unbroken forest between his wagon and the place of delivery. One of two ways must be adopted: he must cut a wagon road the whole distance, or try the navigable capacity of Black River. He chose the latter. He made a raft, launched it, put his wagon on it, shoved off from the shore, and in due time fulfilled his contract by delivering the wagon to Mr. Ely at the foot of what is now Broad street, in this village.

SHEFFIELD.

Town No. 7, in Range 17, Sheffield, in the partition by draft, was drawn by William Hart, of Saybrook. Tract 14, in Henrietta, was annexed to it, to equalize it. Timothy Wallace was the first settler. Previous to Hart's disposition of the land, and in about the year 1812, he agreed with Wallace to give him his choice in lots, if sold by lot, if he would settle and occupy the same. Wallace accepted, entered and improved a few acres on the Robbins Burrell farm, and finally abandoned it. In January, 1815, Hart conveyed the township to Captain John Day and Captain Jabez Burrell, of Berkshire county, Massachusetts. Obediah Deland, Joshua Smith, Joseph Fitch, Solomon Fitch, Isaac Burrell and

Henry Austin, bought in, and became joint owners with Day and Burrell. In June of that year, Jabez Burrell and Isaac, Captain Day and Joshua Smith came west and made selections. In the following November, Smith and son reached the selected ground and became fixed settlers. They were soon joined by Samuel B. Fitch and Asher Chapman, who struck hands with them, built a small shanty, and occupied it during the winter of 1815-16. Freeman Richmond and family, took up their abode on Lot 2. This was the first settlement of the town by a family. In April following, Henry Root, wife and six children, two boys and four girls, arrived from Sheffield, Massachusetts, and took shelter in Smith's shanty until the log house was thrown up, that was to constitute their humble habitation for the immediate future.

Wm. H. Root, Esq., still a resident, and now in the advanced years of a well-spent life, was the youngest of the two boys.. Next, and soon came Oliver Moon, Milton Garfield, John B. Garfield, A. R. Dimmick, William Richmond and Willis Porter. In July and August, there came the families of John Day and Jabez Burrell, the first arriving in July, and consisting of twelve persons, and the latter consisting of ten. William, the oldest son of John Day, at a later day, became one of the associate judges of the county. Captain Smith, in the fall, returned to Massachusetts, and brought on his family in March of 1817. There soon followed the Moores, Stevens, Hecocks, James, Arnold and Isaac Burrell. There is no township in the county, unless it be Grafton, and possibly Brownhelm and La Grange, that seems to have filled up as rapidly as Sheffield, in the first years of its settlement.

From the organization of the county of Huron, until the organization of Lorain, Sheffield owed a divided allegiance. Originally, Dover embraced Avon, and all of Sheffield and Black River east of the river. At a later day, Avon, and the same parts of Sheffield and Black River, that formerly

belonged to Dover, constituted the township of Troy, and they were then in Cuyahoga county. From 1815 to 1824 all of Sheffield, west of Black River, was attached to the township of Black River, as it existed before its territory was reduced to its present limits. This part of Sheffield was then in Huron county. The township was then known as No. 7, Range 17. On the first Monday of June, 1824, touched with a little ambition for territorial expansion, she laid her petition before the commissioners of the County of Lorain, at their June session, in the first year of the organization of the county, praying for a township organization that should embrace in extent its present area, all of Black River township east of Black River and so much of No. 6, Range 17, (Elyria), as was set off to Enoch Perkins, in the partition of that township. The action before the commissioners resulted in the organization of the township, with her present boundaries. Sheffield was the first township incorporated after the county was organized. Her incorporation was the first official act of the commissioners at their June session, 1824. A special election was ordered for the township officers, and took place July 10, 1824. John Day, Isaac Burrell and A. R. Dimmick were elected trustees; Nathan Stevens, clerk; Milton Garfield, treasurer. Jabez Burrell had been elected Justice of the Peace in 1819, while the town was a part of Troy, and re-elected in 1822, and was still exercising the duties of the office at the date of the township organization.

AVON.

Pierpont Edwards became proprietor at the draft, in 1807, of town No. 7, range 16 (Avon), together with Bass Island, No. 1, comprising 1,322 acres of land, Bass Island, No. 2, 709 acres, and Island No. 5, 32 acres, in Lake Erie, west of north of Sandusky, annexed to the town for the purpose of equalization. In 1812, Noah Davis settled on the Lake Shore, erected a log house, remained but a short time and left, never

returning. In 1814, Wilbur Cahoon, Lewis Austin and Nicholas Young made the first permanent settlement of the town. In 1815, Elah Park and others were added. On the 27th of October, 1818, the town, together with the annexations hereinbefore stated, was set off from Dover, and organized in a separate township by the name of Troy, by the commissioners of Cuyahoga county. It will be remembered, that at this date, the river from the point where it passes into Sheffield, north to the lake, was the boundary line between Huron and Cuyahoga counties. A special election was ordered for township officers, to be held November 9, 1818. Elah Park, John Williams and Lodovick Moon were elected trustees; Larkin Williams, township clerk; Abraham Moon, treasurer. In June, 1819, Jabez Burrell, living in the Sheffield district, and William Cahoon, were elected Justices of the Peace.

Previous to 1818, the inhabitants called the town Xeuma, notwithstanding it was a part of Dover. In December, 1824, upon petition of forty citizens, the name of the town was changed from Troy to Avon, by the commissioners of Lorain county. In 1818, the first school-house was built, near the center of the town, and in the fall of that year, Larkin A. Williams opened the first school to the youth of the few settlers of the town.

ELYRIA.

Town No. 6, in range 17 (Elyria), at the draft in April, 1807, was drawn by Justin Ely, Roger Newbury, Jonathan Brace, Elijah White, Enoch Perkins, a company composed of Roger Newbury and others, John H. Buell and Jonathan Dwight. They also drew tract 3, in the 19th range, annexed to the town to equalize it. These lands were aparted and divided between the owners, at the September term of the Supreme Court, in Portage county, in 1816. The south part of the town, about one-third of the whole, was set off to

Justin Ely; the central part to Elijah White; 2,100 acres north of White's, to Jonathan Brace; and the remainder to Perkins and Newbury. White conveyed to Justin Ely, and Justin Ely to his son Heman Ely, who purchased the Brace tract, making him the owner of 12,500 acres, in a solid body. In 1816, Heman Ely, accompanied by no one, left his home in Springfield, Massachusetts, to visit the lands of his father, soon to become his, in the above numbered town. In due time he arrived, and took up his abode, while here, at the hotel of Captain Moses Eldred, in Ridgeville, about two miles east of the river. During the season he engaged Jedediah Hubbell and a Mr. Shepard, of Newburgh, to erect a saw-mill and grist-mill on the east branch of the river, near the foot of the present Broad street, and in the fall of that year, returned to Massachusetts. The erections contracted for were made during the winter of 1816-17. In January, Roderick Ashley, Edwin Bush and James Porter arrived from West Springfield, with axes on their shoulders, prepared to grapple with the forest overhanging the Black River. In February, 1817, Mr. Ely, Artemus Beebe, Ebenezer Lane, Luther Lane, Miss Ann Snow, and a colored boy called Ned, left Massachusetts for Ohio, and in March joined the company that came on in the winter. Of this company, Artemus Beebe, venerable in his years,and venerated for a life of great usefulness, is the only one surviving. Ebenezer Lane, afterward, and for many years, occupied with much distinction, a place upon the bench of the Supreme Court of the State.

The party, on their arrival, took up their abode in a log house, near the present residence of Hon. Heman Ely. This was built the previous year by Mr. Ely, and was the first building of any kind erected in the town. Previous, however, to its occupancy, and in November, 1816, a family by the name of Beach took up their residence in the western part of the town. George Douglas and Gersham Danks, arrived in April, 1817. Festus Cooley arrived from Massachusetts May 29, having made the entire distance on foot,

and on the next day took charge of the mills on the river. There were now, at least, eleven persons here, and work was at once commenced in earnest. The first framed building was the one occupied during the first season, for a joiner shop, and thereafter, for many years, for a store. Edmund West opened the first store in 1818. The second framed building was for the residence of Mr. Ely. It is now occupied by his son Heman as the old homestead. At the raising, as was customary in those times, men from many miles away were present, to put their shoulders to the bent, and assist their neighbor in providing a habitation. All were considered neighbors within a distance of twenty miles. While buildings were being erected the forest was being felled. Clark Eldred, Esq., then twenty years of age, in 1816, upon Mr. Ely's first visit here, entered into a contract with him for the purchase of lot No. 16, two and a half miles west of the river; and during the winter of 1816-17, commenced to clear the ground, upon which he spent nearly a life. This was the first chopping in the neighborhood. In 1817, the survey of the township and village was commenced by Joshua Henshaw, a skillful surveyor, and continued until completed. In the fall of 1817, Heman Ely and the two Lanes returned to Massachusetts, and spent the most of the winter. In October, 1818, Mr. Ely again visited the East; was made happy while there by his marriage to Miss Celia Belden, returned to Elyria, and directed renewed energies to the development of the town. The first school house was built in 1819, of logs, just east of the river; and for years it served the double purpose of a school house and a house for religious worship. Not far distant, and in the same year, Mr. Chester Wright erected a distillery, one of the most flourishing institutions of pioneer times. The first village lot sold was to Artemus Beebe and George Douglas, co-partners in mechanical labor. The consideration paid was $32. The lot is opposite to Heman Ely's. The house standing there was built in 1818. It was used by Mr. Beebe for a hotel for a

great many years. Major Calvin Hoadley, of Columbia, in the same year, being employed by Mr. Ely so to do, built a bridge over the east branch of the Black River.

As elsewhere remarked, on the 14th day of November, 1811, it was ordered by the Commissioners of Cuyahoga county that township No. 7 in the 15th, 16th and 17th ranges, and all of No. 7 in Range 18, east of Black River, viz., the present townships of Dover, Avon, Sheffield, and a part of Black River township, be incorporated into a separate township, by the name of Dover; and on the 12th of March, 1812, it was further ordered by the Board, that all that tract of land lying west of the town of Dover, and west of township No. 6 in the 16th Range, and east of the east line of the Fire Lands. so called, and north of township No. 5 in Ranges 17, 18 and 19, be attached to said township of Dover. This order attached the territory now comprising Elyria, Amherst, Brownhelm, and most of Black River township, to Dover. It is, however, of little value, other than as an historic fact, that the town was so attached, as there were no white settlers here at the time to reap any benefit from the connection. In 1815 this relation was severed. The organization of Huron county detached the town from its former connection with territory lying east and north.

In February, 1817, the township of Black River was ordered organized by the Commissioners of Huron county. Their action declared that township No. 6, and all of No. 7, in Huron county, in Range 18, with all the land thereto attached in Huron county, east of the Fire Lands, should be set off from the township of Vermillion, and organized into a separate township by the name of Black River. It would seem from this order and description that Elyria was included, as it was attached to No. 6 (Amherst), and was in Huron county, and lay east of the Fire Lands. On the 20th of October, 1819, the township of Elyria, comprising towns No. 5 and 6 in Range 17, (Carlisle and Elyria), was set off

into a township by the same authority. It was named after its founder, by adding to his name the suffix ria. The two towns remained united for purposes of civil administration until June 1822. The first election was participated in by the electors of both towns, and took place on the first Monday of April, 1820. The names of the first officers are not ascertainable.

In May, 1818, a postoffice was established, and on 23d of that month Mr. Ely was appointed postmaster,and continued in the office until April, 1833, when he was succeeded by John S. Matteson. After the act forming the county had been passed by the Legislature, in 1822, and previous to its organization in 1824 the question of the location of a county seat became one of no inconsiderable interest.

The inhabitants of the three townships of Black River, Sheffield and Elyria, were respectively solicitous to secure it. A committee of disinterested persons was appointed by the Legislature to examine into the merits of the rival claims, and into the public convenience and welfare, having respect to the future needs of the people, as well as the present. In February, 1823, they made their appearance here, and by Mr. Artemus Beebe were conveyed to Black River and Sheffield, and, after examining the three points, selected Elyria as the Seat of Justice. It is not improbable that a promise by Mr. Ely to furnish a temporary court house and jail, for use until the county should erect county buildings, and to donate $2,000 towards the erection of a new court house, operated as an inducement to the selection made. The county seat selected, Mr. Ely, in fulfillment of his promise, proceeded at once to erect the court house. It may yet be seen performing the humble, yet honorable, office of a workshop, in the rear of Snearer & Waldeck's furniture store. It was erected on Cheapside corner, and used for the purpose for which it was designed until 1828, when the erection of the court house now upon the public square rendered its further use for county purposes no longer necessary.

It was subsequently used for school and religious purposes. The jail was built a short distance southeast of the present Court House. The family of R. W. Pomeroy, Esq., has been for some years confined in it, on 3d street, with the privilege, however, to go at large without recognizance or bail. On the 22d day of February, 1822, Heman Ely dedicated to the inhabitants of the township the public park, lying between Broad and South streets, and placed the title in Edmund West in trust for their benefit. He also conveyed to West in trust for the use of the county, for county buildings, if accepted and used for that purpose, eight rods of ground by twelve, where the Court House now stands, and the remainder of the back square he conveyed to the town for the benefit of its inhabitants.

These gifts of Mr. Ely to the town, were followed at a later, and more recent date, by one from his son Charles Arthur Ely, the munificence of which is only equaled by the liberality and large-heartedness which inspired it. The Elyian Library is a monument that will ever keep fresh in the hearts of the people the memory of its generous and lamented founder.

WELLINGTON.

Wellington, town No. 3, Range 18, was drawn together with 4,000 acres, in tract 7 in Brighton, annexed to equalize it, by Ephraim Root and James Ross. They sold the town to Frederick Hamlin, James Adams, Francis Herrick, and Harmon Kingsbury, of Berkshire county, Massachusetts; two of these, Adams and Kingsbury, never became residents of the town. In the spring of 1818, the settlement of the town was commenced. Ephraim A. Wilcox, John Clifford, Charles Sweet and Joseph Wilson, of Berkshire county, Massachusetts, and William Welling, of Montgomery county, N. Y., reached Grafton in February of that year, and in March following cut their path through to Wellington. They

made an opening to the sunlight at the centre of the town, and at once built a log cabin for habitation. They carried a few blankets, and bed ticks, filling the ticks with dry leaves. The bedstead was constructed by driving four crotched stakes in the ground, laying poles from stake to stake, and placing white oak shakes from pole to pole. Upon this structure they placed their leafy bed, and upon this bed their weary limbs. Having provided a dwelling they at once commenced to clear the forest. As often as once a week two of the number went to Grafton, a distance of ten miles, to get their bread baked. The number and ferocity of wild animals made it dangerous for one to go alone. There being two, each constituted a body guard for the other.

Clifford returned to Massachusetts in the following May. On July 4th, of the same year, Frederick Hamlin arrived, accompanied by the wife of Wilcox, her son Theodore, Caroline Wilcox, and Dr. D. J. Johns. Before their arrival, Wilcox had erected a log house on land selected by him northwest of the centre, into which he at once took his family. This was the first family that made its advent into the town. Others were soon added, among whom were those of John Howk, Alanson Howk, Whitman DeWolf, Benjamin Wadsworth, Silas Bailey, Amos Adams, Judson Wadsworth, James Wilson and Josiah Bradley. In the spring of 1820, the first school house was opened in the house of John Clifford by Caroline Wilcox, in which she continued to teach until a log school house was erected on the spot now occupied by the American House. The school was closed with a grand exhibition, the first entertainment of the kind that has been noted, given west of the Cuyahoga. Frederick Hamlin was one of the associate judges in the county, appointed in 1824, upon its organization. He was succeeded in that office by his fellow townsman, Dr. D. J. Johns. The township was organized in April, 1821. It was then a part of Medina county. Hamlin was elected a trustee; Wilcox a justice of the peace, and D. J. Johns township clerk. Col. Herrick had

been a member of the Massachusetts Legislature while a resident of Massachusetts. He did not remove here until 1837. The town was named after William Welling, one of the first settlers. The then recent achievement of the Duke of Welington, on the plains of Waterloo, may have inspired a ready acquiescence in the suggested name. Welling subsequently took up his residence in Medina county.

HUNTINGTON.

The town next south, No. 2, Range 18, was drawn by Oliver Sheldon, Simeon Griswold, John Cowles, Benjamin Kent and others. Tract No. 4, in Rochester, was drawn with it. Sage, Skinner, Bowles and others, soon became large proprietors of the town, by purchase. In the year that Hamlin, Wilcox, and Clifford, left Berkshire county, Massachusetts, to settle town No. 3, range 18, in the Connecticut Western Reserve, Joseph Sage. John Laborie and others left Huntington, Connecticut, for No. 2, of the same range. John Laborie and wife, (the latter being the daughter of Mr. Sage), were the first family that took up its settlement in the town. They left in February, 1818, accompanied by four boys and a girl. They made the route from Connecticut to Hudson, then in Portage County, in four weeks, traveling the whole distance in a sleigh. At Stow they hired an ox team to take them through, and after six days of severe journey, they reached town No. 1, (Sullivan), then having but four families—settlers of the previous year—within its borders. On the next day, they moved forward and took possession of a log house that had been built by Henry Chase. There was an opening for a door, but nothing to fill or close it; no window nor chimney. The cracks, or openings between the walls, had not been chinked. They had one neighbor. He had just preceded them in settlement, and was from Easton, New York. Laborie at once erected a log house, and moved into it, and

there lived for some three weeks, without a window, floor or chimney. Their bedsteads were made of puncheons, and their beds were ticks filled with leaves. The boys chopped some poles, placed them on the joists above, making a chamber, and took up their lodging in the loft. Sage went South, bought some hogs, drove them home, butchered them, and salted them down in a trough. The trough cracked, the brine ran out, the salt lost its savor, and away went the pork. Mrs. Laborie was not, however, to remain long without female friends from her Eastern home. On the 20th of June, of the same year, the family of Isaac Sage, arrived. In the afternoon of the day of their arrival, they were feasted on a pot-pie, made of the meat of a young bear. Early in fall, there came the families of Oliver Rising and Daniel Tillotson. Benjamin Rising came with Oliver. In 1822, a school-house was built and Miss Lovinia Loveland, during that season, taught the first school, having fourteen scholars, some coming a distance of two miles through the woods. The first framed dwelling was built by Reuel Lang. Benjamin Rising was the first manufacturer of the town. J. B. Lang, Esq., thus describes his manufactory: "It was a lathe, operated by a spring-pole, for turning wooden bowls. A bark rope, attached to a long spring-pole, overhead, passing around the mandrel, which was of wood, and attached to a treadle below. The treading on this threw the block around two or three times, and then the pole springing back, threw the block back, ready for another 'gouge.'"

In August, 1822, the Commissioners of Medina county, to which Huntington then belonged, incorporated the town by the name it now bears. It took its name from Huntington, Connecticut, the former abiding place of the Labories. The organization also embraced the new territory now within the township of Rochester. An election was ordered for and held upon the 1st Monday of September. Joseph Sage, Henry K. Ferris and Benjamin Banning were elected trustees; Isaac Sage, township clerk; and David E. Hickox,

treasurer. Joseph Sage was elected the first Justice of the Peace at a special election held soon after.

BRIGHTON.

Brighton was first settled in 1820, by Abner Loveman, Jr. He took up his abode on tract 7. Settler No. 2, was Joseph Kingsbury, who settled upon the same tract, in the early part of 1821. Other families soon followed. Had the territory comprised by the township lines, been surveyed into a township, it would have been town 3, range 19; and it was so entered on the country records, at the date of its incorporation.

It was, however, formed by the Commissioners of Medina county, out of tract 7, a part of tract 6, and a part of tract 8. Lemuel Storrs was the original owner of all of tract 8. He drew it at the draft in connection with LaGrange, to which it was annexed for equalization. Four thousand acres in tract 7, were annexed to Wellington, to equalize it, and were drawn by Ephraim Root and James Ross, in connection with that township, and tract 6, by Peter Brooks, John Call, William Shaw, George Black, and Pennewel Cheney. Some of these parties sold to, and others exchanged with, Tuckerman Bros., Harman Kingsbury, Norton, Stocking, Deming, Hamlin, and Alford. Tuckerman Bros. sold to Levi Bliss, of Massachusetts. The township was organized at the spring election of 1823. Joseph Kingsbury, Avory Hall, and Calvin Roice, were elected trustees; Leonard H. Loveland, clerk; Abner Loveland, treasurer; and Abner Loveland, Jr., Justice of the Peace. There were twelve electors, just about the number of persons required to fill the offices in those days. The township belonged to Lorain, as then formed, but, with other townships, remained attached to Medina county, until the organization of Lorain was completed. The school-house and church soon followed the incorporation of the town, and for the observance of all things that concern the public order, and good morals, Brighton ranks among the highest and foremost of her sister townships.

EATON.

Town 5, range 16, at the Hartford drawing, became the property of Caleb Atwater, Turhand Kirtland, Daniel Holbrook, and ten others. Tract 1, gore 4, in range 11, was annexed to it, to bring it up to full value with the selected town. It was originally called Holbrook, and retained that name until 1822, from the circumstance that Daniel Holbrook was a large owner of its soil. It was first settled in the fall of 1810, by Asa Morgan, Silas Wilmot, Ira B. Morgan, and Ebenezer Wilmot. These were all single men. They came from Waterbury, Connecticut, in the spring and summer, with those who took up their abode in Ridgeville. They built a log house, in the fall of that year, on the land long occupied by Silas Wilmot, and jointly occupied it, until, by a change in their circumstances, such occupancy was no longer desirable. By agreement, this house became the property of Silas Wilmot. It was the first erection in the town. In 1812, Silas Wilmot intermarried with Chloe Hubbard, of Ashtabula county. They commenced married life in a log cabin on the Ridge. His was the first family that settled in the town. Soon after, Ira B. Morgan intermarried with Louisa Bronson, of Columbia, built a log house, just east of Wilmot's, and there took up his abode. His family was the second that took up its residence in the town. Asa soon married and settled west of Wilmot's.

Not long after, the families of Levi Mills, Thuret F. Chapman, Seneca Andress, Meritt Osborn, A. M. Dowd, Dennis Palmer, Sylvester Morgan, and others, were added. The first school was taught by Julia Johnson, daughter of Phineas, then a resident of No. 5, range 16. The organization of the township of Ridgeville, included Eaton ; and the two towns were embraced in one civil organization, until December 3, 1822, at which time it was ordered by the Commissioners of Cuyahoga county, on the petition of the inhabitants, that No. 6, (5), range 16, be set off into a township by the name of Eaton. At the spring election, in 1823, the re-

quired township officers were elected, the township detached from Ridgeville, and organized for independent action.

CARLISLE.

Carlisle, town No. 5, Range 17, was drawn by Joseph Perkins, John Richmond, Tracy, and Hoit, William Eldridge, John Mc Clennan, Daniel Tilden, and Jabez Adams. As before mentioned, Island No. 6, then called Cunningham's, now Kelley's, consisting of 2,747 acres, was annexed to it for the purpose of equalization. Those who drew the town became the owners of that island. The first settlement of the town was made in the spring of 1819, by Samuel Brooks, from Middletown, Conn. He was accompanied by Phineas Johnson, his wife's father, who assisted in selecting the spot for their future home. Johnson returned to Connecticut. A log house was soon erected, and in it Samuel Brooks took up his abode. This was on the east branch of Black River, in the east part of the town. In September of that year Hezekiah Brooks, a brother of Samuel, and whose wife was a sister of the wife of Samuel, and both the daughters of Phineas Johnson, Capt. James Brooks and family, together with the family of Johnson, and the family of Riley Smith, left Middletown, and after the usual tedious journey of about six weeks, with ox teams, reached Elyria. Smith and family remained at Elyria for a while, and then went into Carlisle. The families of the Brookses and Johnsons pushed forward to Carlisle, and moved in with Samuel, and remained until other dwelling places could be provided. At about the same time that this settlement was making in the east part of the town another was springing up in the western part. The families of Jamison Murray, before then for some time residents of Ridgeville, and Philo Murray, and Philo, Jr., had taken up their residence on the ridge, and Obed Gibbs and family, and Ransom and David had settled further south. Soon after, the families of Solomon Sutliff, Chauncey Prindle,

Bennett, Drakely, Hurd and others were added. Prindle settled at the centre of the town. Abel Farr and Abel Farr, Jr., and John Bacon, were among the earliest residents of the town. Julia Johnson taught the first school in Carlisle, as she had in Eaton and Elyria. She subsequently became the wife of Edmund West, and resided in Elyria.

Carlisle and Elyria were, on the 20th day of October, 1819, organized for civil purposes, together by the name of Elyria. They belonged to Huron county. This connection was sustained and continued until June 4th, 1822, when on petition of Obed Gibbs and others, No. 5, Range 17, was detached from Elyria by the commissioners of Huron county, and organized into a separate township by the name of Carlisle. Before this independent organization a part of the town had acquired the name of Murraysville. This was not satisfactory to the inhabitants away from Murray's Ridge. Phineas Johnson wished the town named Berlin, after his native town in Connecticut. The people of the Ridge wanted it called Murraysville, and being unable to agree on either name, a compromise resulted in the selection of the name it bears.

AMHERST.

Amherst, No. 6, in Range 18, was drawn by Martin Sheldon, Calvin Austin, Oliver L. Phelps, and Asahel Hathaway. Tract No. 5, consisting of 4,000 acres in Black River, was annexed to equalize it. Its early history is intimately connected with that of Black River, and in connection with the latter town and other adjoining territory, was organized in April, 1817, into a township by the name of Black River. Its incorporation and organization were ordered by the Commissioners of Huron county, at their session in February of that year. This relation continued until October, 1818, when Brownhelm was detached and incorporated independently. Russia was detached in June, 1825, leaving the territory now embraced in the township of Amherst and Black River form-

ing one township. These two townships continued as one until January 12, 1830, when a special act of the Legislature divided them. There was an act in force that inhibited the incorporation of any township, by the act of County Commissioners, with less than twenty-two square miles, unless it included a town corporate; and this inhibition prevented the organization of Black River with its present limits by the Commissioners of the county. An application was therefore made to the Legislature, for a separate organization, and on the 12th of January, 1830, an act was passed incorporating the inhabitants of fractional township No. 7, Range 18, in the Connecticut Western Reserve, by the name of the township of Black River. The act directed, that on the first Monday of April then next, an election for township officers should be held at the house of John S. Reid, Esq., in manner and form as provided by law; and it was further provided that township No. 6, in the same range, should be, and remain separate from, and exclusive of, fractional township No. 7, and be known as the township of Amherst. Its first officers were elected at the April election in 1830. Jacob Shupe was the first settler of the town. He came into Black River in 1810, and as early as 1811 moved over the line into Amherst, and settled upon Beaver Creek. He erected a saw-mill in the same year, and soon thereafter a grist-mill. In October, 1815, Chileab Smith settled with his family on Little Beaver Creek, in Amherst, four miles west of Elyria, where he lived until his death. He opened and kept the first tavern in that vicinity. During the same year Stephen Cable, before then a resident of Ridgeville, moved from the latter town, and took up his residence near the Corners, formerly called Hulbert's Corners, six miles west of Elyria. In the year 1816, Reuben Webb settled on the farm lying at "Webb's Corners." In 1817, there were other additions to the town, among them the family of Thomas Waite, which remained but one year, and then removed into Russia. The family of Ezekial Crandall settled near Cable's. In the year 1818, Josiah Harris

settled at what is now North Amherst, where he spent a long and useful life. He came from Becket, Berkshire county, Massachusetts. He was elected justice of the peace in 1821, and held the office by re-election for thirty-six consecutive years. He was postmaster at North Amherst for a continuous period of forty years; was the first sheriff of the county, and was appointed associate judge in 1829, and served for the period of seven years. He was the object of universal respect by the inhabitants of the town of his adoption. Through the beneficence of his counsel, parties litigant often left his court with their cause amicably settled, with all irritation removed, and personal good feeling restored. Ebenezer Whiton became a resident the same or the previous year. Eliphalet Redington settled on the South Ridge, now South Amherst, in February, 1818. He was selected by the Legislature as one of the Committee to locate the road leading from the eastern termination of the one, running east from the foot of the rapids of the Miami of the Lake to Elyria. Elijah Sanderson settled near him in the same year. Prior to 1820, there were numerous additions to the town, among whom were Caleb Ormsby, Ezekiel Barnes, Elias Peabody, Thompson Blair, Israel Cash, Roswell Crocker, Harry Redington, Jesse Smith, Adoniram Webb, Frederick, Henry, Michael, David and George Onstine.

RUSSIA.

Russia, is town No. 5, Range 18. It was originally drawn by Titus Street and Isaac Mills. 4,300 acres in tract 3, gore 6, range 12, was annexed to equalize it. Mills sold his interest to Samuel Hughes. Among the first names familiar to those living in the town, were those of Street and Hughes. The first settlement was in the northwest corner of the town, north of the road leading from Webb's Corners to Henrietta. It was nearly contemporaneous with the settlement of South Amherst. Thomas Waite was the first settler. He moved his family from Ontario county, New York, in 1817, and

took up his residence in Amherst until the spring of 1818, when he moved into Russia, took up a piece of land, and in a few years died. In 1820, the west road began to be opened, and Daniel Rathburne, and Walter and Jonathan Buck, with their families, settled in the town in that year. In 1821, the families of John McCauley and Lyman Wakely were added. They were followed in 1822 by Samuel T. Wightman and Jesse Smith, with their families. In 1823, John Maynes joined the settlement, and in 1824, Meeker, George and Johnathan Disbro, Daniel Axtell, Abraham Wellman, Israel Cash, Richard Rice, James R. Abbott, and Henry and John Thurston took up their abode there. Some of these may have moved in, in 1823. They were soon followed by Elias Peabody, Samuel K. Mellen, Lewis D. Boynton, Eber Newton, Joseph Carpenter, and others. Whether the first school-house was built just north of Eber Newton's, or near the residence of Alonzo Wright, is in dispute. There was one at each place at an early day. When Black River was organized in February, 1817, by the Commissioners of Huron county, the lands adjoining the present township of Amherst on the south, were annexed to enable the inhabitants to enjoy township privileges. The inhabitants of Russia remained so annexed, until June, 1825, at which time, on petition of many of her citizens, she was detached from Black River by the Commissioners of Lorain county, and incorporated into a separate and independent township. The election of township officers was had at a log school-house on the hill near Wright's in the summer of 1825, it being a special election ordered for the purpose of perfecting the township organization. At this election, George Disbro, Israel Cash, and Walter Buck, were elected trustees; Richard Rice, clerk; and Daniel Axtell, justice of the peace. No settlement was made in the south part of the town until after the year 1832. The ground selected for the Oberlin Colony, as it was called at an early day, was an unbroken forest until 1833. In the spring of that year, Peter P. Pease, one of the earliest of the Brown-

helm settlers, erected his log cabin, opposite of where the Park House now stands, and on College ground. This was the first breaking in that part of the township. Street and Hughes had donated about five hundred acres of land to the contemplated "Oberlin Collegiate Institute," and had sold to its friends upwards of five thousand acres more, for the price of one dollar and a half an acre. The resale of this tract, at an advance of one dollar an acre, provided the fund that enabled the successful initiation and organization of the College. The annual report of the Institute in the second year of its existence, (1834), among other things employed the following language: "One and a half years ago, its site was uninhabited, and surrounded by a forest three miles square, which has since been taken by intelligent and pious families, which have formed a settlement, called the Oberlin Colony, that will soon probably overspread the entire tract. This site was chosen because it was supposed to be healthy, could be easily approached by Western lakes and canals, and yet was sufficiently remote from the vices and temptations of large towns; and because extensive and fertile lands could here be obtained for the manual labor department of the Institute, and for the settlement of a sustaining colony on better terms than elsewhere. Its grand object is the diffusion of useful science, sound morality and true religion, among the growing multitudes of the Mississippi Valley. One of its objects was the elevation of female character, and included within its general design, was the education of the common people with the higher classes, in such manner, as suits the nature of republican institutions." How well it has accomplished this grand object, and carried out this general design, its history already written affords the most convincing proof. Planted in a wilderness, seemingly the abode of desolation, its nearest neighbor three miles away, it struggled on with opposition and derision, until its accomplished work gives it rank among the leading institutions of the land. It has graduated upward of sixteen hundred persons and afforded

instruction to about seventeen thousand. It has the happy satisfaction of having survived the odium, which attached to its defense of those principles of freedom and equality, which received their crowning triumph, in the issue, and achievements of the late struggle for the maintainance of American Independence.

PENFIELD.

Township No. 3, in range 17, became by the draft the property of Caleb Atwater. He gave it to his six daughters. Lucy Day, Ruth Cook, Abigal Andrews, Mary Beebe, Sarah Merrick, and the wife of Judge Cook. The first exploration of the township by persons seeking western lands, was in the fall of 1818, by Peter Penfield and Calvin Spencer, then resident of eastern New York. They were assisted in their examination of the township by James Ingersoll, of Grafton, after which they returned to the East. In 1819, Peter Penfield again came, and selected land, employed Seth C. Ingersoll to erect a log house upon it, and returned home. Ingersoll completed the dwelling in the fall of that year. In February then next, Peter Penfield and Lothrop Penfield arrived and in connection with Alanson, a son of Peter, already on the ground, and who remained during the winter preceeding and taught school in Sheffield, commenced to open the forest four miles from the nearest inhabitant. In the fall of 1820, or early winter, Truman Penfield arrived with his family, the first that came, and moved into the log house built by Ingersoll. In the following March, the family of Peter Penfield, which up to this time had remained East, arrived and joined in the occupancy of the log cabin, until another could be erected. Calvin Spencer came again in 1821, selected land, engaged Peter Penfield to build a house upon it, and returned to New York. In the fall of 1821, Samuel Knapp came, examined the land, made a selection, and returned home, and remained there until the fall of 1822, when with his family he took up his abode in the infant settlement, upon

the lands so selected. Other families soon followed. David P. Merwin arrived in 1824. Calvin Spencer moved his family into the house prepared for him in the spring of the same year. The family of Stephen Knapp arrived about the same time,and the family of Benjamin E. Merwin in 1825. The township was organized at an election in 1825, held at the dwelling house of Truman Penfield, having been previously ordered by the Commissioners of Medina county, of which county the town then formed a part. The officers elected were Samuel Knapp, Samuel Root and Peter Penfield, trustees; Truman Penfield, clerk; Lothrop Penfield, treasurer. In 1826, Benjamin E. Merwin was elected Justice of the Peace. Previous to its incorporation,the inhabitants had agreed upon Richland as the name of the town, and petitioned the Commissioners for an order of incorporation by that name. But the Commissioners ascertaining there were other localities having the name of Richmond, rejected the application, and named it Penfield, in honer of the first settler. Previous to the organization of the town, it had been annexed to Grafton, and in connection with that town enjoyed township privileges until it was set apart to act under independent organization.

The first school was taught by Miss Clarissa Rising, of Huntington, in the private dwelling of Calvin Spencer. The usual facilities for teaching were, however, soon provided by the erection of a log school house in the fall of 1828, and a teacher for the winter supplied, in the person of our respected townsman, Geo. R. Starr.

SULLIVAN.

In 1728, the township of Sullivan, No. 1, range 18, embracing the territory now included in Sullivan and Troy, was organized by the Commissioners of Lorain county, and town No. 1, range 17, now Homer, was annexed to it for judicial purposes only.

SPENCER.

In December, 1831, the inhabitants of No. 2, range 17, applied for township organization, by the name of Spencerfield. The "field" was dropped, and the town was incorporated by the name of Spencer.

HOMER.

In March, 1833, town 1, range 17, previously annexed to Sullivan, was detacked and organized into a township by the name of Richmond. Subsequently the name was changed to Homer.

TROY.

In June, 1835, all of the 19th range, south of Rochester, together with the surplus land lying west, was detached from Sullivan, and organized into a township by the name of Troy. Upon the formation of Summit county, in March, 1840, Spencer and Homer were severed from Lorain and re-attached to Medina; and upon the formation of Ashland county, in February, 1846, Sullivan and Troy were detached from Lorain, and were incorporated into that county.

LA GRANGE.

La Grange, town 4, range 17, with 3,700 acres in tract 8, range 19, now in Brighton and Camden, was drawn by Henry Champion and Lemuel Storrs, Champion owning two-thirds and Storrs one-third of the purchase. Champion conveyed his part of the town to his son-in-law, Elizur Goodrich, who exchanged part of it with Nathan Clarke, Roger Phelps, Noah Holcomb and James Pelton, for lands owned by them in Jefferson county, New York, where they formerly resided. The three last named, in the fall of 1825, visited the ground to form a judgment of its merits for farming pur-

poses, and returned home. Goodrich, also, exchanged lands with David Rockwood, Asa Rockwood, Fairchild Hubbard, Joseph Robbins, Sylvester Merriam and Levi Johnson. On November 14, 1825, Nathan Clarke made the first settlement of the town. During the next season the families of Noah Holcomb, Sylvester Merriam, James Disbrow and Joseph A. Graves arrived for permanent settlement, and a new abiding place. In the latter part of the same year, Fairchild Hubbard moved in from Brighton, where he had remained during the season of 1826. Population so increased, that in the fall of that year there were over sixty persons resident in the town, with more continually coming.

At the June session of the Commissioners of Lorain county, 1824, La Grange, then known as town 4, range 17, was attached to Carlisle for civil and judicial purposes, and remained so attached until its separate organization in 1827. Immigration had been so rapid, and of such numbers, during the eighteen months succeeding the advent of the first family, as to necessitate an independent township organization. In January, 1827, it was detached from Carlisle and incorporated into a township by the name of La Grange. The first election for township officers was held in April of that year, at the dwelling house of Fairchild Hubbard. Eber W. Hubbard afterward one of the associate judges of the Court of Common Pleas, was elected township clerk; James Disbrow, treasurer; Noah Holcomb, Noah Kellogg and Fairchild Hubbard, Trustees, and Eber W. Hubbard, Justice of the Peace.

HENRIETTA.

Henrietta was organized during the same year. In November, 1826, the inhabitants in the south part of Brownhelm, petitioned the commissioners to take off the three south tiers of lots, and attach them to unsettled lands lying south, and incorporate the same into a township. The petitioners took occasion to say, that it was seven miles from the Lake

Shore, to the south line of the township; that there had been but little communication between the north and south settlements; and that it was extremely inconvenient for some part of the people, to attend on the public business of the town. The prayer of the petition was rejected, but at the same session of the commissioners it was ordered that tracts 9, 10, 11, 12, 13, 14, 15, in range 19, with surplus lots lying west of said tracts, be erected into a township, by the name of Henrietta, and be attached to Brighton for judicial purposes. This township, as thus formed, included a large part of the present township of Camden, and a little more than two-thirds of the present township of Henrietta. As organized, it was not satisfactory to the inhabitants of the south part of Brownhelm, and in February, 1827, upon their petition, two tiers of lots, being over a mile in width, were detached from the south part of Brownhelm, and annexed to Henrietta; and tract No. 9, was detached from Henrietta, and annexed to Brighton. An election was ordered for township officers, which took place in April, 1827, Calvin Leonard, Simeon Durand and Smith Hancock, were elected trustees; Justin Abbot, clerk; Joseph Powers, treasurer; Edward Durand, Justice of the Peace. In March, 1830, lots 86, 87, 88, were detached from Brownhelm, and annexed to Henrietta; and in March, 1835, lots 81, 82, 83, 84 and 85, the remainder of the tier, were added. The first settlement was on the Brownhelm territory. The first occupants were Calvin Leonard, Simeon Durand, Ruloff Andress, Joseph Switt, John Denison, Uriah Hancock, Jedediah Holcomb, Almon Holcomb, Obed Holcomb, Joseph Powers, the Abbots and possibly others. They took up their abode there, in 1817, about the same time that the Shore settlement was made. After the organization of the town in 1827, a postoffice was established on the hill, and 'Squire Abbot appointed first postmaster.

PITTSFIELD.

The first white inhabitants of No. 4, range 18, now Pittsfield, were a man by the name of Barker, and his two sons. He cleared a small spot on the northeast corner of lot 96,and there built a small log house. This was as early as 1813. Barker enlisted and went into the Military Service of the United States, in the war of 1812. His two sons remained a while, and left. Some surveyor's instruments were found in their cabin a few years after. In the Draft at Hartford, in 1807, the town was drawn by Ebenezer Devotion, William Perkins and eight others. Tract 11, in Camden, range 19, consisting of 3,000 acres, was annexed to the town, to make it equal in value to the others to be drawn. In 1819,the township was surveyed into lots, and divided between those who had purchased it. Milton Whitney became a large owner. In 1820, he came from the East, made an examination of the land, and entered into an arrangement with Thomas and Jerry Waite, sons of Thomas Waite, then of Russia, by which they were to settle in town No. 4, range 18, upon his giving them fifty acres of land, each. This he did, and in the spring of 1821, the two Waites moved into the town, and took up their residence there. They were the first permanent settlers in Pittsfield.

Immediately following the settlement of the Waites, they were joined by Henry and Chauncey Remington, upon a gift of one hundred acres of land to each of them by Whitney. The next settler was a minister by the name of Smith. Mr. Norton soon thereafter moved into the town. He built the first framed barn erected in the town. The town filled up quite slowly; so much so that there was but one framed house in the town as late as 1834. The town was early annexed to Wellington for township purposes, and remained so annexed until December, 1831, when, on petition of the inhabitants, it was detached and incorporated into a township by the name of Pittsfield, taking its name from Pittsfield, Massa-

chusetts, where many of its land-owners resided. In April, 1832, the selection of township officers completed its organization as a separate township.

CAMDEN.

In March, 1835, an order incorporating Camden township was made by the Commissioners of the county. The prolongation of the line between Russia and Pittsfield, west to range 20, was its northern boundary, and the extension west to the same range, of the line between Pittsfield and Wellington, its southern. It was carved out of Brighton and Henrietta. Tracts 9 and 10, and parts of lots 8 and 11, in range 19, together with surplus lands lying west, formed the material for its territorial composition. Tract 9, by the draft at Hartford, became annexed to Grafton, and was drawn by Lemuel Storrs. Tract 10, annexed to Dover, by Nehemiah Hubbard and Joshua Storrs. Tract 11, annexed to Pittsfield, was drawn by Henry Champion and Lemuel Storrs. It has before been remarked, that none of the 19th range south of Brownhelm, as originally formed, was surveyed into townships, but was all surveyed into Tracts, which were wholly originally annexed to other towns, for purposes of equalization. Leonard Clark, with his family, accompanied by his wife's father, Moses Pike, made the first occupancy of land now forming the town of Camden. This was in 1829. This family lived there but a few years before moving West. In March, 1833, the families of William Scott and John Johnston took up their settlement on tract 11. These were the first families that permanently settled, at least in that part of the town then constituting a part of Henrietta. Later in the season, a schoolhouse was "thrown up" by the inhabitants, and Mrs. Johnston gathered the few children and opened the first school. Other settlers soon joined, among whom were those of Waugh, Clark, Douglas, Washburn, Cyrenius, Holcomb,

Wells, Lee, Wilcox, Smith and Eddy. On the 6th of April, 1835, the first election for township officers was held in the log school house, and resulted in the choice of Azel Washburn, Robert Douglas and Obed Holcomb, trustees; John Cyrenius, clerk; David Wells, treasurer. Gideon Waugh was the first Justice of the Peace.

ROCHESTER.

At the same session that Camden was set apart and organized into a township, lots 1 to 15, inclusive of tract 3, with all of tracts 4 and 5, and a part of tract 6, in range 19, together with surplus lots, 9 to 14, inclusive, lying west of the range, with a part of surplus lot 8, were united, and formed into the township of Rochester. Tract No. 5, was drawn by Uriah Holmes, in connection with the town of Litchfield, Medina county; and tract 4, by Oliver Sheldon, and others annexed to Huntington. The first settlement was made by Elijah T. Banning, in April, 1831. Between 1831, and 1835, Benjamin C. Perkins, William Shepard, John Conaut, John Baird, Samuel Smith, Luther Blair, Joseph Hadley, Nehemiah Tucker, M. W. F. Fay, Erastus Knapp, Obijah W. Babcock, John Peet, and others, some with and some without families, were joined to the settlement.

The township was organized on the 6th of April. 1835, by the election of John Conant, Joseph Hadley, and Nehemiah Tucker, trustees; M. L. Blair, township clerk; Benjamin C. Perkins, treasurer. The organization of Camden and Rochester, in March, 1835, and Troy in June following, completed the organization of the townships of the entire county.

COUNTY.

At the organization of the county there were not to exceed ten organized townships. At the spring election, 1824, Asahel Osborne, John S. Reid, and Benjamin Bacon, were elected

Commissioners for the county; Sherman Minott, auditor, and Josiah Harris, sheriff. In the fall of the same year they were re-elected. At this election there were three hundred and thirty-two votes cast. The first term of the Court of Common Pleas was held on the 24th of May, 1824, by Hon. George Tod, President of the Third Circuit, and Moses Eldred, Henry Brown and Frederick Hamlin, his associates. Wolsey Wells, the only resident attorney, was appointed to prosecute the pleas of the State, and also clerk of the Court for the time being. He served as clerk only one day, when Ebenezer Whiton was appointed and assumed the duties of the office. Edward Durand was appointed surveyor for the county. Court continued its session for three days and finally adjourned.

At the first session of the Commissioners, Edmund West was appointed County Treasurer; and at the next session, John Pearson was appointed Collector of State and County taxes. This completed the official organization of the county. Literary and educational societies sprang up at an early day, and supplied the means for mental culture and improvement. In 1828, the Lorain County Library Society was incorporated. Heman Ely, Reuben Mussey, and others, were incorporated by the name of the "Elyria High School," in 1831. This school flourished for some time, under the superintendence and tuition of the Rev. John Montieth. In 1834, John Montieth, and his associates, were incorporated by the name of the "Elyria Lyceum." In March, 1835, Daniel L. Johns, and others, were incorporated by the name of the "Wellington Social Library Company." These were private corporations. These societies, and others of a similar character, served a good purpose, and were well supported until a more general diffusion of the means of education and mental culture obviated the necessity of their continued existence.

The time I have consumed reminds me that I am wearying your patience. I will detain you but a moment longer.

One of the most pleasant features of this day's celebration is the coming together, and the warm greetings of old friends. It is like the reunion of the family at the Golden Wedding, where congratulations are interchanged, and the recollections and pleasures of youth are revived. We are happy in having with us so many, then young, whose immediate ancestors were the ones who, upwards of a half century ago, exchanged their homes in New England for a life in this far-off land. They were the advance guard of the Empire of the West. Little do we, of a later day, know of their trials and sufferings; little of the self-denial, the self-sacrifice, the longing for homes left behind, and the society of former days, of those who pioneered the way to this New Land of promise. Their hardships were not those of the battle-field, but those incident to a life at the out-post of civilization. The most of them have gone to the rewards of a work well accomplished. Many of them are still here, survived to witness the Centennial Anniversary of their country's Independence, and to join in its acclamations; enjoying to the fullest and freest civil and religious liberty, surrounded by a thickly populated community in the enjoyment of like freedom, with the promise of its continuance forever. But, as we look back to the day when they first made their advent here and note the intervening progress of events, and the great growth of the people, and of the things which denote their prosperity and happiness, what changes have been wrought! The same sky above, and the same earth beneath, are still here. The same rock-bound rivers, and the same beautiful blue lake expanding upon the North, are also here. But what else that has not undergone change? The dense forest has melted away, and its savage inhabitants are gone. The land then in the wildness of nature, is covered with cultivated and fruitful fields, with thriving and growing villages, with cities of great wealth and architectural beauty. There is one, but a short distance away, whose surpassing beauty is equalled only by the splendid promise of its future. There are facilities for

carrying, for transit and intercommunication, that bring remote neighborhoods into friendly intercourse and seeming proximity. There has been an accumulation of industries and industrial products, surpassing all expectations. Institutions of learning, spreading a knowledge of the arts and sciences, and affording the means of high intellectual culture and scholarship, long since sprung forth, and found a welcome habitatation and seat, in this New England of the West.

These are some of the fruits of that energy, and courage, brought hither by the Pioneers of that early day. The germ of New England culture, those influences that soften, elevate, and refine her social life, were brought. They brought the Bible, the church, and the school—the inevitable attendants, and sure security, of an enlightened future. Some of them brought what DeTocqueville names, as the surest guaranty of equality among men—poverty and misfortune. But good neighborhood, common sympathy, and fraternal regard, mitigated the rigors of the latter, and supplied the needs, and necessities, of the former. They brought with them a deep love of Liberty, an immovable trust in God, a Patriotism inspired afresh by the glories and achievements of the Revolution; and accepting, yet defying, the hardships and privations that threatened, they came, bearing aloft the emblem of their Country's Liberty, and led forth to this benighted wilderness and wild, the advancing hosts of civilization.

Let us, my friends, rejoice in the example, in the courage, in the patriotism, and worth of those hardy Pioneers. Let us rejoice that we are the honored recipients of the blessings they secured and transmitted. Let us rejoice in the happy and glorious future, of which the present is so full of promise. And above all, let us rejoice in a country whose progress, during the century, up the highway of nations, commands alike the wonder and admiration of the world; and whose crowning glory is, that before the century's close, it extended the ægis of its protection, and imparted the full fruition of its liberty, to the humblest citizen of the land.

TRACT No. 84.
WESTERN RESERVE HISTORICAL SOCIETY.
CLEVELAND, OHIO.

TRACES OF THE ICE AGE

—IN THE—

Flora of the Cuyahoga Valley

—DELIVERED BY—

PROF. E. W. CLAYPOLE,

OF AKRON, OHIO,

BEFORE THE WESTERN RESERVE HISTORICAL SOCIETY, OF

CLEVELAND, OHIO, FEBRUARY 24th, 1891.

TRACES OF THE ICE AGE IN THE FLORA OF THE CUYAHOGA VALLEY.

E. W. CLAYPOLE.

Among the revelations of Geology the great changes of temperature which parts of our globe have experienced in comparatively recent times are not the least surprising. So strong is our association of the pole of the earth with a cold climate that it is not easy to conceive of it in any other relation. Yet no fact is more certain than that this connection has not always been actual. So also the existing temperature of the temperate zone has not always prevailed. The testimony of geology is conclusive on both these points.

If we look back into the Tertiary Era to the beginning of the Miocene, or perhaps to the end of the Eocene age, a very different state of things meets the eye. From the cold and ice-bound north come fossil plants which tell us a story, at once strange and true, of those countries as they then were —not the dreary wastes of to-day, but warm and green and beautiful as our own land in our own time.

Collections of vegetable fossils from Disco Island, in West Greenland, in 78° of north latitude, have revealed to us a rich and varied floral growth indicating, if not warm, at least mild temperature, when trees, which cannot in our days stand in Ohio, could live and grow on the shores of Baffin Bay and Davis Strait, now clogged with the terrible "Middle Ice" of the polar current. Examination of the fossils by botanists, especially by the late Prof. Heer, of Zurich, enabled him to draw up the following list:

		Disco.	Spitzbergen.
Salix,	Willow,	P	...
Populus,	Poplar,	P	P
Corylus,	Hazel,	...	P
Tilia,	Linden,	...	P
Alnus,	Alder,	P	P

Quercus,	Oak,	P	...
Fagus,	Beech,	P	P
Platanus,	Plane,	P	P
Juglans,	Walnut,	P	...
Salisburia,	Ginkgo,	P	...
Liriodendron,	Tulip tree,	P	...
Vitis,	Vine,	P	...
Thujopsis,		P	...
Taxodium,	Bald Cypress,	P	...
Sequoia,	Giant Redwood,	P	....

Any one familiar with the forests of our State and the nature of their trees will be deeply impressed on reading this list. Though it may cause him no surprise to see the first few names, because the Willow, Poplar, Hazel and Alder are among our hardiest trees and range far to the northward over Canada at the present day, yet the Oak and Beech seem strangely out of place for they are far more tender; the White Oak not ranging north of Ottawa, the Red Oak being scarcely found on the north shore of Lake Superior, and the Bur-Oak, the hardiest of its genus, only reaching even in the west to the Prairie Province and Winnipeg Lake.

The Beech is a little less hardy and occurs rather less to the north than the Red Oak. The Plane is not fully hardy even in Ohio being often killed by spring frosts. The same is true of the Tulip-tree, which scarcely crosses the Niagara and St. Lawrence. The Vine and Walnut hardly enter Canada except in the Ontarian peninsula and on the Atlantic coast. The Japanese Ginkgo, planted through the Eastern States, is scarcely able to bear the winters of the Northeast and of Ontario and Quebec without protection, and never fruits save in very favorable surroundings, while the Bald Cypress and the Redwood, as is well known, only grow where the winters are mild, as in the Southern States and in California, to a few spots of which latter Sequoia is now confined.

Let us then, if we can, imagine the earth's condition when it was clad with all this luxuriant forest growth as far as 78° of North Latitude. It is a legitimate inference that no severe winter was then experienced in those regions and that the climate was milder than that of Ohio at this day, and probably resembled what now prevails in California and on the West Coast generally.

Yet again we may further infer that if Taxodium and Sequoia could flourish within 12° of the pole, the hardier genera could range yet farther to the north, and the Willow, Poplar and Alder could grow at the very pole itself, supposing land to have existed there. In any case, it is almost beyond doubt that no icy sea or snow-clad land was there, and that the North Frigid Zone was then as accessible as the Equator, had man been present to traverse it.

But this glorious Miocene or Eocene Summer passed away. Slow changes, whose causes are as yet unknown, reduced the temperature age after age until the trees migrated south or died out and the snow and ice assumed undisputed possession of the Polar region. Toward the end of the next era, the Pliocene, the empire of frost slowly extended itself over the North Temperate Zone until, in the Pleistocene, much of it became what Greenland is now, and the Ice-Age was at its zenith. All Northwestern Europe and Northeastern America were hidden beneath the icy mantle or only a few of the highest peaks raised their heads, as the "Nunataks" of Greenland, above its concealing sheet. Every living thing was driven southward before it. Animals migrated; plants died and their seeds alone, borne to a more genial clime perpetuated the species. When migration was impossible, extinction was the only alternative.

But in time nature relented and the ice-sheet began to retreat. Slowly the country was uncovered in reverse order and the hardiest plants and animals, among the latter of which was man, ventured northward close to the edge of the receding ice. As the retreat continued the denizens of

warmer regions trod on the heels of the hardy pioneers and pushed them farther and farther northward, usurping their place. Conditions that suited the former disagreed with the latter and they retreated to the Arctic Regions or to the mountain tops. In this way vegetation was again distributed over the continent and resumed its former abundance, but not its former luxuriance, for the Miocene mildness has never returned. The chill of the ice yet lingers over the North Temperate Zone, and its effects are visible wherever opportunity offers.

One of these opportunities is in our own district. In the cool moist glens of the Cuyahoga Valley there yet linger traces of a northern flora, and the botanist whose ken takes in more than the mere outside of his science, who seeks the history and the ancestry of his pets, and asks himself how they came where they now are, finds no little pleasure in seeing, as it were, the footprints of the ice-king on the ground before him.

The flora of these glens contains, among others, the followlng species whose most congenial habitat is farther north, though several of them range southward when and where conditions favor them.

Hemlock Spruce (Abies Canadensis)	common north, rare south.
Arbor-vitæ (Thuja occidentalis)	" " " "
Canada Yew (Taxus Canadensis)	" " " "
Mountain Maple (Acer spicatum)	Me. to Wis. & Alleghanie
Canoe Birch (Betula papyracea)	Almost entirely N. & N. W.
Red-berried Elder (Sambucus pubens)	N., S. in mountains.
Purple Raspberry (Rubus odoratus)	common northward.

Calla (Calla palustris)	common northward.
Swamp Saxifrage (Saxifraga Pennsyl.)	common, especially northward.
Gold Thread (Coptis trifolia)	N. & S. in mountains.
Long Club-moss (Lycopodium lucidulum)	common N.

Without insisting strongly on every one of these cases we may assert that the aspect of this flora is decidedly northern, and that it would be difficult to explain its presence in the Cuyahoga Valley had the temperature and conditions been always as they are now. And when further we recollect that nearly all the glens and valleys of similar nature in the glaciated region as far south as Southern Indiana are in like manner occupied by a northern flora, the impression deepens and it becomes impossible to escape the conclusion that our state has recently recovered, or is, perhaps, even now recovering from a great depression of temperature—a "cold snap" of no short duration. In short, the Botanist fully bears out the conclusion of the Geologist regarding the great ice-age.

The story above given of the migration of plants and animals, from the north to the south and their partial return, is confirmed by another set of facts the consideration of which requires a wider view and a more extensive range over the field of Biology. When the Botanist compares the floras of the Old and New Worlds he is struck by the fact that there is a marked resemblance between them and yet a substantial difference. Frequently the same genus is found on both hemispheres, but the species are different. In not a few cases the similarity is yet greater and the same species occurs on both showing only varietal differences. In yet another set of cases no distinction at all can be drawn between the eastern and the western forms and the botanist is compelled to admit their complete identity. How can these

things be? How can plants so nearly or completely alike occur at so vast a distance from one another?

As illustrations of this statement, we may quote the oaks, of which several species occur in Europe and perhaps more in America, and yet no two are alike; the willows with sixteen American and fifteen English species, of which one only is common to the two continents, (S. herbacea,) and that the smallest only attaining the height of two inches and arctic in its taste, occurring on the White Mountains of New Hampshire and at high elevations in Britain; the Poplars with six American and three English species, all different; the apples, with five species on each continent, but none identical; the Golden-rods, with one species in England and thirty or forty here, and the Heaths, of which six species grow in England, only one of which is found, and that very rarely, in America.

The same is true of smaller genera of which we may quote the Hornbeam with two species (Carpinus Americana, and Ostrya Virginica,) in America and one in Europe; the Beech, Chestnut and Linn, with a single species on each side of the Atlantic, scarcely distinguishable; the Hazel and Strawberry with two American and one English species, and the Elm with two English and one American.

Coming down to still closer resemblance we find many species, especially those of northern affinity, common to both hemispheres. One of the most showy and abundant of arctic flowers, the Rosebay, (*Epilobium angustifolium*,) inhabits Europe, Asia and America. A Violet, (*V. canina*,) is found in both worlds, and the Marsh-marigold, (*Caltha palustris*,) with its large yellow flowers, colors in spring the swamps of Europe and America. Two Sundews, (*Drosera rotundifolia* and *D. longifolia*,) open their leafy traps in both hemispheres, and the Harebell, (*Campanula rotundifolia*,) so well known to every tyro in botany, hangs its purple blossoms from the crevices of rocks in the northern parts of the eastern and western worlds. Not a few plants are truly

circumpolar and range around the globe from Western Europe through Asia to Northern and Arctic America. This is the case with all those just mentioned. They greet the botanist as he travels around the world. They are citizens of no country in particular but so far as conditions suit them they are cosmopolitan.

If we may be allowed to add a single additional fact to the strong case already presented, we would cite the Ferns. And taking no wider view of this family than is shown by the comparison of the Fern-flora of the Eastern United States and England, we find that out of between fifty and sixty species that are natives of the former, about one-half are also indigenous to the latter. In no family does the European botanist find more constant reminders of his old home than when he is working among these plants. In most instances he can detect no difference between those which he gathers here and those which he has collected on the other side. So close a resemblance between two floras can admit of no rational interpretation save community of origin in the distant past. The Ferns of the East and of the West are cousins, though their common ancestral home has been destroyed and its memory almost effaced by the disastrous physical changes that have supervened.

One of the most beautiful little gems of the Swiss Alps, well known to every botanist who has visited them by its starry flowers and feathery seed-vessel, (*Dryas octopetala*,) the Dryad of the limestone ridges, well exemplifies the fundamental facts of this paper. Its range is from England and Scotland to Arctic Europe, Asia and America, extending south to the high mountains of Switzerland and of Colorado and through British America to Greenland. Nor is this pretty little Rosewort alone in its wide range and unexpected appearance. Such facts might be multiplied in almost endless succession. But enough have been given to suggest the question, how can they be explained?

Fifty years ago the query would have had no significance

because the problems of Evolution had not been propounded. But to the present generation such resemblances can only be explained on the theory of descent with modification. The family likeness indicates a common origin. The Beech of Europe and the Beech of America must have sprung from a single ancestor at some time in the past. So also with the two Chestnuts, the three Hornbeams and all the others. What solution has geology to give to this botanical problem?

Revert for a moment to the Tertiary history of the Northern Hemisphere and realize the Arctic luxuriance of the Miocene Era as already described. Transport all these plants back to their polar home and watch their slow southward migration with the secular cooling of the climate. Recollect too what is meant by the migration of a plant, and note how it differs from that of an animal. The animal travels, or can travel, in most cases, during its whole lifetime, so that its offspring may start in life many miles from the spot where its own individual existence began. But the plant has no such power of locomotion. Where it springs from the ground there it remains till it dies. The species can, in most cases, only travel through their seeds, which may be carried or drifted to some distance—or may not. Obviously, this is a slow and uncertain process in which chance takes by far the greater part. An annual plant, seeding every year, has an immense advantage over a tree, which may not produce seed till it is twenty years old. Yet even an annual plant can in most cases, and barring external help from wind, currents and animals, travel but a short distance every year and during its retreat it was pressed close in the rear by the advancing ice and cold. How many of the Miocene occupants of the Polar Regions failed to make their forced march to the southward quickly enough to escape their pursuer and were consequently overtaken and ruthlessly extinguished we may never know. But apparently the absence of many Miocene species from Europe is

due to this accident. The Hickories, the Red Maple, the Sweet Gum, the Western Plane, the Fox Grape, the Bald Cypress, the Tulip-tree, the Fan Palm and the Sequoia , all lie buried in the Oeningen beds of Switzerland but survive in North America where southward migration was not blocked by the Alps, the Pyrenees and the Mediterranean.

These features of the European geography, especially the last, were very fatal to the inhabitants of that continent during their migration. Stretching, as did the Mediterranean, a long unbroken barrier accross their path, it left them no way of escape, and when caught between it and the cold, many of them perished. Hence the forests of Europe lack numerous species which still survive in those of North America. These latter retreated to the south during the cold era and returned with the rising temperature to their old haunts, thus escaping the extinction which overtook their less fortunate brethren of Europe.

Nature, to the student of science, is full of such accidents. She mercilessly destroys the work of her own hands and shows that the organic world is but as it were a plaything in the hands of the inorganic. Amid the changes and catastrophes of the latter, the former must take its chance, surviving if it can and if it cannot perishing and forever; for the type once lost is never renewed.

Of those that survived this disastrous retreat before the advancing hosts of the ice-king, we find the descendants scattered over both hemispheres, and so distributed that the flora of Eastern Asia shows a strong resemblance to that of Eastern America, where the climate is severe while the plants of Western Europe have, in many cases, their nearest allies on the west coast of America where the climate is mild and moist.

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*Note.—In regard to a few of these trees there is some doubt among botanists whether or not the species were precisely identical but at most the differences are only varietal.

To the evolutionary geologist the case as above stated presents no difficulty. He sees the plants slowly retreating before their foe, and adapting themselves to changes of environment as best they could. Some show no alteration, as the Harebell and the Dryad, mentioned above. Others show differences regarded by most botanists as merely varietal, such as the Chestnut, Beech and Sequoia, etc., though by some these are regarded as distinct species. In other cases the variation has gone so far as to constitute clearly two species of the same genus.

But in all this he finds nothing at all surprising. It is not more than he would expect considering the enormous lapse of time which these migrations have occupied and the wonderful changes of environment to which the emigrants have been subjected. He sees with satisfaction the deductions of botany confirming those of geology, and the most difficult and apparent inexplicable problems of the one science receiving a complete solution from the deductions of the other. Thus they are mutually supporting and by the efforts of the students in both departments is the story of continuous life on the globe being gradually recorded.

Digressing a little I may be allowed to introduce an illustration from another science. There is a species of butterfly, the "Goddess of Mt. Washington," (*Oeneis semidea*,) which haunts that mountain alone, so far as we know, in the Eastern United States. But it reappears in the West on Pike's Peak and is an Arctic insect. To explain its presence in these two places on any other theory would not be easy, and this butterfly is accordingly regarded by zoologists as a relic of the ice-age, exterminated on the plains by the rising temperature and only lingering on the cold heights where conditions are still favorable.

The moral of my story is that physical changes leave on the region where they occurred, and on its living residents traces, which if not indelible, are yet very long lasting, and that these records may be read and interpreted by him who

has learned the language in which they are written. An eminent botanist, lately lost to science, once said that if all historical records were destroyed and the white race exterminated from the Western World, the fact of its presence here would be demonstrated by the botanist from the weeds of Europe that infest our fields. So the botanist could in the same way, from a study of the flora, come to the conclusion that there has been in the recent stages of the Earth's history a time when the climate was much colder and more ungenial than it now is in the North Temperate Zone. He is slowly learning the characters in which nature has recorded these events and is engaged in translating them into the language of man.

Not many years ago the marvellous history of Egypt was totally unknown. The mysterious characters graven on the tombs and temples of the new and old empire, though eloquent, were dumb to the historian. Not until the Rosetta stone, with its trilingual inscription was discovered, could we obtain any historical knowledge of this the most wonderful of ancient empires. But now, thanks to the labors of Champollion and Young and their disciples and followers, we are translating the story recorded on the monuments and dug from the ruins into the language of the modern world, so that he who runs may read, and the procession of Egyptian kings and the succession of Egyptian people stretches farther and farther back into the past till both are lost in the dim mist of an antiquity far older than the date formerly assigned to the human race, or even to the earth on which it lives. The true story of Egypt, as told by the critics and the historian, far surpasses in interest any imagination that we formerly entertained regarding the significance of those mysterious hieroglyphics.

So the botanist and the geologist are engaged in deciphering the records of nature graven with an iron pen in the rocks almost forever, and translating them into a tongue that is "understanded of the people." And it is not too

much to say, even of the recent developments regarding the Ice-age, that no story that poet ever feigned comes up in marvellous interest to that which reveals to us the icy region of our earth clad with beauty and fertility, the home of temperate and almost semi-tropical life, and then anon the Temperate Zone overspread with continuous sheets of ice and snow which blotted out of existence all this teeming life and beauty and reduced it to a waste and howling wilderness—a Greenland vastly magnified and enduring for millennium after millennium—and finally its redemption in part from this desolation and its restoration to fertility and fruitfulness. Yet this is the story told, not by the fancy of the poet or novelist, but by the sober, solid deductions of the Botanist and the Geologist.